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ORIGINAL ARTICLES.

FIBRINOUS BRONCHITIS, WITH REPORT OF AN ACUTE CASE.[1]

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THE subject of fibrinous bronchitis has never been discussed by this Association, though one of our members, Dr. W. C. Glasgow,[2] published an exhaustive study of the affection some fifteen years ago. The disease is extremely rare, particularly in the acute form.

The following case came under my observation in July, 1895:

Mrs. G., aged about forty-five and in excellent physical condition, had been under my care for some ten days for a Colles' fracture of the right arm. Her family record was negative, with the exception of a history of gout or rheumatism on the maternal side. She herself was of an excitable nervous temperament, and had had symptoms suggesting gouty tendencies. On the 29th of June, I changed and reapplied the splints to her arm, and left her in apparently perfect health. Two days later, on the morning of July 1st, I was sent for in haste, and found her in considerable distress. She stated that she had gone to bed the night before as usual, feeling perfectly well. During the night she was awakened by a sense of oppression in the chest and great difficulty in breathing. Toward morning she was taken with paroxysms of coughing, which finally resulted in the expectoration of clumps of a grayish-white substance, which was floating in a glass of water on my arrival. The expectorated masses, when shaken up a little in the water, proved to be a rather firm, tough membrane, resembling that found in diphtheria, but branching and twig-like in form. It had evidently come from the medium-sized bronchi of the lungs. There was no involvement of the upper respiratory passages. The dyspnea had been greatly relieved by the expulsion of the bronchial casts. There was but little fever, the temperature being about 100°, the pulse was 96, the respiration somewhat quickened by the patient's nervous apprehension.

Physical examination was almost wholly negative in its results. The percussion note was resonant throughout the chest, the breath sounds were somewhat diminished, but there were no râles or other evidences of an inflammatory process in the lungs. I prescribed a simple expectorant mixture of iodid of potassium and muriate of ammonia, with codein to quiet the mental agitation of the patient. On the next day a few scattered moist râles were heard in the lungs. Casts were expectorated at intervals for two or three days, but otherwise the case pursued the course of a mild catarrhal bronchitis, and the patient was well in a week.

On questioning the patient as to her past history, I learned that she had had one similar attack, but much more severe, some ten years before, which had lasted two weeks. At that time (the patient was then under the care of the late Dr. A. L. Loomis), as on this occasion, no exciting cause for the onset of the disease could be determined. There was one other fact of interest in the history of this patient, which may perhaps throw some light upon the etiology of fibrinous bronchitis. She said that several times in her life she had had circumscribed swellings upon different parts of the body, but especially upon the arms and hands. The swellings came on suddenly, sometimes after she had by chance plunged her hands into very cold water, but at other times without evident cause, unless perhaps indigestion or some mental disturbance. The description of the affection corresponded with that of angioneurotic edema. According to Dana,[1] there is reason to believe that neurotic edema may sometimes attack the stomach, or even the lungs, though he considers the latter unlikely, as the vasomotor innervation of the pulmonary blood-vessels is very stable. It is known, however, to attack the larynx and throat, and it is within the range of possibility that fibrinous bronchitis is an angioneurosis of the bronchi, resulting in a fibrous exudate instead of the serous transudation of neurotic edema.

Fibrinous bronchitis has been the subject of several elaborate reviews during the past thirty years, notably those by Lebert,[2] Riegel,[3] Glasgow,[4] West,[5] and more recently Beschorner.[6] I shall not, therefore, deal with the disease at length, but shall simply touch briefly upon some of the most striking features.

The etiology and pathology of fibrinous bron-

[1] Read at the annual meeting of the American Climatological Association, at Lakewood, N. J., May 13, 1896.

[2] *St. Louis Courier of Medicine*, 1880, iii, p. 109.

[1] "Text-book of Nervous Diseases," p. 488.

[2] *Deutch. Archiv f. klin. Med.*, vol. vi, p. 74.

[3] "Ziemssen's Cyclop. of Practice of Medicine," vol. iv, p. 438.

[4] Op. cit.

[5] *The Practitioner*, 1889, vol. xliii, p. 83.

[6] Samuel, *klin. Vortr. k. F.*, Leipsig, 1893, No. 73 (*Mu. Med.*, No. 25, p. 617).

chitis are most obscure. Modern investigations have added little to our knowledge of the affection, beyond establishing the nature of the exudate in the bronchi. Until the middle of the present century, the expectorated masses were variously described as pulmonary blood-vessels, fleshy polypi, coagulated blood, inspissated mucus, lymphatic concretions, or cast-off bronchial mucous membrane. Remak,[1] in 1845, was the first to insist upon the fibrinous character of the membrane, and he gave to the disease the name of "fibrinous bronchitis." Beschorner, in his recent article, states that in two cases observed by him the bronchial casts were composed of mucus. All other modern writers agree that the exudate is made up mainly of fibrin, containing in varying proportions epithelial cells, leucocytes, fatty matter, air bubbles, and granular detritus.

Some acute cases, whose clinical course resembled that of an acute infection, were thought to be diphtheria with unusual localization of the exudate. The membrane in these cases, however, failed to show the Loeffler bacillus in any instance, and inoculation of animals also gave negative results. Other microörganisms have been reported by two observers. Picchini[2] found three varieties of cocci in the expectoration of three laborers who were affected simultaneously with the disease. He apparently made no cultivation of the microörganisms, but inoculation of the trachea of animals produced an affection resembling fibrinous bronchitis in the human subject. Sokolowski,[3] in a recent paper, describes an acute case, characterized by high fever of two weeks' duration, in which the staphylococcus aureus and the staphylococcus albus were found in the expectoration. He succeeded also in reproducing these microörganisms in various culture media. Sokolowski is therefore of the opinion that acute fibrinous bronchitis conforms to the type of an infectious disease, and is possibly caused by the staphylococcus aureus and albus. He also believes that chronic fibrinous bronchitis is, etiologically, quite distinct from the acute form of the disease.

Fibrinous bronchitis is observed more frequently in males than in females. It occurs at all ages, but most often between twenty and fifty years of age. A few cases have been reported in early childhood, and one case at the age of seventy-two years. Hayn,[4] in 1842, described the *post-mortem* findings in the case of a newborn infant that seemed perfectly well at birth, but died a half hour later. On autopsy, the bronchi and bronchioles were found filled with a fibrinous exudate.

Among predisposing causes, tuberculosis has been assigned great weight by some authors. Syphilis also has been noted in a few cases. On the other hand, many of the persons attacked had previously been in good health. It is probable that neither tuberculosis nor syphilis has any direct etiological connection with the disease. A family predisposition is occasionally seen, cases having been reported in which several members of the same family have been affected by it. In many instances, fibrinous bronchitis has apparently taken its origin from a catarrh of the bronchi of greater or less duration. Sometimes it has followed exposure to atmospheric changes, as in ordinary bronchitis. In other cases, no such exciting influence could be ascertained. It would seem that some especial individual predisposition must exist in the person attacked, but the nature of this predisposition is, as yet, unknown to us.

Fibrinous bronchitis occurs in both acute and chronic forms. The acute form may begin like a simple bronchitis, or the onset may be marked at once by urgent symptoms, such as chill, high fever, paroxysms of cough, and intense dyspnea. These symptoms may continue for several days, and are not relieved until the fibrinous casts are expelled. In the case of my patient, the expectoration of the casts began within twenty-four hours after the beginning of the attack. The expulsion of the casts is sometimes attended with hemoptysis, which may be profuse. There is usually a decided fall of the temperature, which rises again if the casts reform. Immediate relief follows upon the ejection of the membrane, and in mild cases the patient convalesces rapidly. In severe cases, in which the casts are not expelled, cyanosis supervenes, and the patient dies of asphyxia or exhaustion. In one fatal case, a tracheal cast lodged in the glottis and caused death by suffocation. The duration of the acute cases varies from a few days to two weeks. About one-half of the acute cases terminate fatally, sometimes as early as the third day.

The symptoms in the chronic form of the disease resemble those just described, but are, as a rule, less urgent. The attacks usually follow upon long-continued bronchial catarrh. The disease may last for years, the paroxysms recurring at regular or irregular intervals. The interval may be as long as sixteen years. In one case, attacks occurred daily for seven years, then

[1] Cited by Beschorner, loc. cit., p. 625.
[2] Cited by Beschorner, loc. cit., p. 635.
[3] *Deutch. Archiv f. klin. Med.*, 1896, bd. 56, heft 5 and 6, p. 476.
[4] Cited by Beschorner, loc. cit., p. 624.

ceased entirely. Physical exploration of the chest during the attack often reveals little that is distinctive. Resonance on percussion is normal. The respiratory murmur is usually more or less suppressed over the region of the occluded bronchi. If one lung only is affected, inspection may show less movement of that side of the chest. Râles may be heard if there be accompanying bronchial catarrh. A flapping or fluttering sound has been described in some cases, when the casts have become loosened in the bronchi. After expulsion of the casts, respiration may be heard in the parts of the lung before impervious to air.

But little remains to be said of the pathology of fibrinous bronchitis, in addition to what has been stated above. On *post-mortem* examination, the bronchi usually present the appearances of ordinary catarrhal bronchitis, and in addition, contain membrane more or less widely distributed. In acute cases, both lungs are involved, as a rule. In chronic cases, the process is generally more circumscribed. The membrane is molded to the shape of the bronchi, and is somewhat firmly attached. The casts are insoluble in water, but are soluble in alkalies, especially in lime water, a fact of therapeutic importance. As already described, they consist of coagulated fibrin, intermingled with cells of various kinds. Two explanations are offered of the mode of origin of the coagula in the bronchi. According to Klebs,[1] the casts are formed from transuded plasma of the blood, combined with an exudate of white blood-cells, which have escaped from the vessels. E. Wagner,[2] on the other hand, believes that the casts owe their origin to a pecular metamorphosis of the epithelium of the bronchial mucous membrane, by which the epithelium forms the cellular elements by endogenous cell production and the fibrinous framework out of the remaining cellular substance. The view of Klebs has, at least, the merit of greater simplicity. He, however, in common with all other writers, fails to explain why the exudative process should be limited strictly to the bronchi, and should recur in certain individuals for years at periodic or irregular intervals.

Diagnosis.—Fibrinous bronchitis can only be diagnosticated with certainty when the characteristic arborescent casts are expectorated. A probable diagnosis may often be made if there be a history of previous expectoration of membrane, and the patient exhibit the symptoms and physical signs already described. The diagnosis is often difficult with young children, who swallow their expectoration. Beschorner suggests that probably some cases of acute, suffocative bronchitis are really fibrinous bronchitis. Six such cases are reported by Legendre[1] and Fauvel,[2] which ran the ordinary course of an acute, intense bronchitis, ending fatally. On autopsy, pseudo-membrane was found in the finer bronchi and bronchioles of both lungs. Even in adults, the real condition may not be appreciated if the case terminates without dislodgement of the casts. Cutler's[3] case is instructive in this respect. He saw his patient for the first time some three hours before her death. She was a woman sixty-five years of age, and gave the history of a slight bronchitis of a few days' duration. Cutler found her sitting up in bed, deeply cyanosed, and in a profuse perspiration. The percussion tone was normal. Fine dry râles were heard over the whole chest, and also coarse tracheal râles. Cutler made a diagnosis of diffuse capillary bronchitis. The result of the autopsy was as follows:

> Pharynx and larynx healthy. Tracheal mucous membrane injected in lower half and slightly thickened. A croupous membrane lay reflected on itself over the entrance of the two primary bronchi. When laid in place, this membrane reached less than half way up the trachea. Downward it extended into the minutest divisions of the bronchi, in many of them forming an almost solid plug. The alveoli contained no solid matter and, except in a few places where there was edema or collapse, they contained air.

The prognosis of fibrinous bronchitis is always doubtful. It should be especially guarded in the acute form, as the disease results fatally in one-half of the cases in adult life and in three-quarters of those in childhood. The prognosis of the chronic form is more favorable as regards life, but very doubtful as to complete restoration of health or freedom from future attacks.

The indications for treatment are fourfold: (1) To favor the loosening and expulsion of the casts from the bronchi; (2) to prevent or diminish their formation; (3) to cure or relieve the bronchial or other complications; (4) to improve the general condition of the patient.

The croupous exudate is soluble in lime water and other alkalies, and many observers have seen apparent benefit from the use of lime water in the form of inhalations and sprays, with the addition of caustic soda. Inhalations of steam are also advised. Breathing into rarified air, and compression of the thorax during expiration may aid the expulsive effort of the bronchi. Emetics are

[1] Cited by Beschorner, loc. cit., p. 635.
[2] *Ibid.*

[1] Cited by Beschorner, loc. cit., p. 630.
[2] *Ibid.*
[3] *Boston Med. and Surg. Journal*, 1881, civ, p. 443.

most valuable, especially apomorphia in hypodermic injection. In one severe case, the application of mustard to the entire chest resulted in prompt relief. Potassium iodid is probably the most useful remedy in all forms of the disease. It increases the bronchial secretion when given during the acute paroxysm, and thus aids in expelling the casts. It also seems to lessen the tendency to a recurrence of the attacks if it is given in full doses and for a long period of time.

The catarrhal bronchitis, which so often accompanies the chronic form of the disease, will require appropriate treatment, as will also other complications or sequelæ, such as tuberculosis, emphysema, or asthma. Stimulants may be needed during the acute attacks, and general tonics may be of service in the intervals to improve the nutrition of the patient. A change of climate is sometimes necessary in this, as in other forms of pulmonary disease.

LINEAR SUPRAMALEOLAR OSTEOTOMY FOR DEFORMITY FOLLOWING FRACTURES OF THE LOWER THIRD OF THE LEG.[1]

By JAMES KERR, M.D.,
OF WASHINGTON, D. C.

JOINT disability following fracture is of most serious import when affecting the articulations of the lower extremities, owing to their weight-bearing function and because they are associated with pain and a physical incapacity tending to increase as age advances, and not infrequently resulting late in life in complete decrepitude. The causes of this have long been recognized, and perhaps best described in the original monograph by Percival Pott, who, in speaking of the effect of the fracture that goes by his name, says: "The due and proper use and execution of the offices of the joint depend almost entirely on the perpendicular bearing of the tibia on the astragalus."

The disability to which I wish to draw attention is perhaps more marked in the case of this joint than elsewhere, and the fractures that more frequently induce it are Pott's fracture and the oblique fracture of the lower end of the tibia. These effects seem to depend on the alterations of the normal articular relations by which the weight-pressure is thrown off the normal axis and bears unduly on one side of the joint, producing at first a feeling of insecurity, and later, pain and lameness. The extra-articular structures, capsule, ligaments, and tendons are subjected to strain corresponding to the amount of axial deviation. Arbuthenot Lane, in a very important contribution to our knowledge of fractures of the leg, says that physical incapacity (the case of laborers) follows in a proportion of seventy per cent. to eighty per cent. in oblique fractures of the bones of the leg, and cites forty cases collected among hospital patients in support of this statement; and most of us have met with such cases among those who lead laborious lives.

He believed[1] that the average financial depreciation of the laborer, as a machine, after such injury, amounted to nearly seventy per cent. of his original value. This he thought due to alteration in the lines of pressure through the several joints of the lower extremity, resulting from deflection of the lower fragments from their original relationship to the upper. In consequence of this alteration, insecurity and pain were experienced in the joints, especially the ankle and foot, and increased with the age of the individual. Pathologically there was a progressive mechanical arthritis in the joints. Mr. Lane consequently advocated operative measures entailing a minimum of risk to the life or limb of the patient, by which the fragments could be brought into apposition and so retained with perfect accuracy that the skeletal mechanics of the individual remained as perfect after the injury as they were before. He cut down on the fracture of the tibia and exposed the broken ends freely, removing any tissues intervening between the sectional surfaces, bringing these surfaces into accurate apposition, partly by traction on the foot, partly by means of elevators, and partly by means of lion forceps, by which last instrument apposition was continued till holes had been drilled and the bony surfaces brought together immovably and forcibly by the introduction of steel screws. He read notes of three cases which he had operated on in the same week. The results were extremely satisfactory, since the fragments had united perfectly. The paper was supplemented by a brief account of forty cases collected by Mr. F. J. Steward, which fully bore out the truth of Mr. Lane's statements.

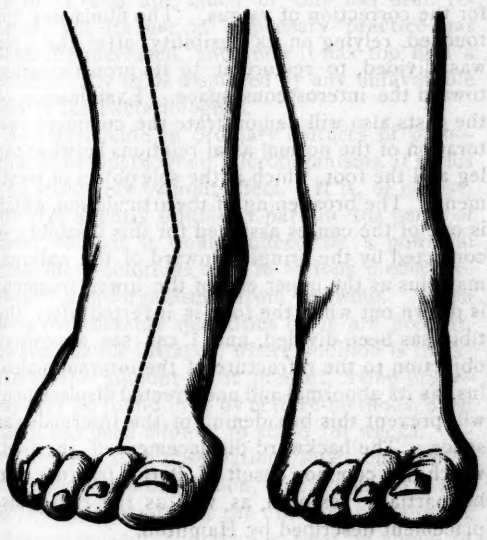
If these statements are in accord with the facts, the routine methods of treatment in fractures of the leg call for revision. The mistake arises mostly from treating all fractures of the leg in the same way, without regard to the special pathology of each. The two classes of fractures that I am now dealing with cannot be managed without serious ultimate results to the usefulness of the limb by the methods most generally advised, namely in box splints, plaster-of-Paris, or

[1] Read before the Am. Orthopedic Assoc. at Chicago.

[1] Paper read before the Clinical Society of London, April, 1894.

any method by which the limb is kept in the straight position and foot not adjusted and maintained so as to meet the special indications of either fracture. Fracture of the fibula, with fracture of the internal maleolus or rupture of the internal lateral ligament, require muscular relaxation and inversion of the foot. The oblique fracture of the tibia requires the same regard to muscular tension and eversion of the foot. Special indications to meet such displacements, as backward position of the foot in the former, and forward riding of the upper fragment in the latter, are required, but it will be readily seen how frequently any general routine method must result disastrously.

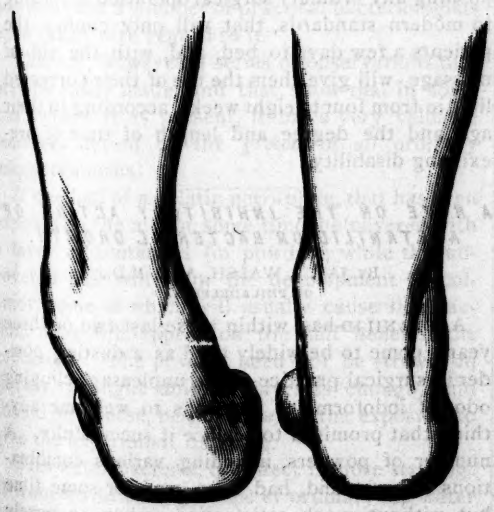
FIG. 1.



FRONT VIEW.

BEFORE. AFTER.

FIG. 2.



REAR VIEW.

BEFORE. AFTER.

These evil consequences of maltreatment are most often found following Pott's fracture, and are common at any age and to all classes. The characteristic deformity, (the axis of the leg making an angle with the foot, best observed from behind, as Langenbeck has pointed out), the lameness and tarsalgia make a striking clinical picture too frequently met with.

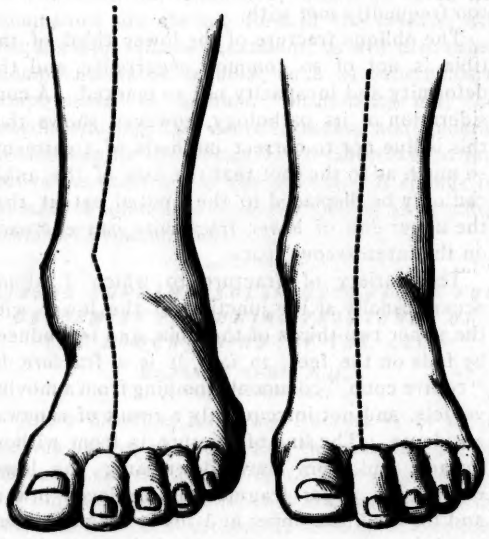
The oblique fracture of the lower third of the tibia is not of so common occurrence, and the deformity and incapacity not so marked. A consideration of its pathology, however, shows that this is due not to correct methods of treatment, so much as to the fact that the axis of the ankle can only be displaced to the limited extent that the upper end of lower fragments can encroach on the interosseous space.

The variety of fracture to which I allude occurs usually at the junction of the lower with the upper two-thirds of the tibia, and is produced by falls on the feet; in fact, it is a fracture by "contre coup," commonly jumping from a moving vehicle, and not infrequently a result of runaway accidents. The line of fracture is from without inward, and from above downward; the lower end of the upper fragment is displaced inward and forward, the upper and lower fragment outward into interosseous space. As a result, the inner maleolus is raised, the articulating surface of the tibia that was at right angles to the axis of the limb is inclined obliquely upward and presents a modified converse to all the conditions that exist in Pott's fracture, the articular relations being altered as to throw the axial weight-line outward, instead of inward, as in Pott's. This fracture of the tibia is usually associated with fracture of fibula high up. Here, as in Pott's, much can be done by proper conception of the pathology and carrying out correct principles of treatment; but where these have not been adopted, the same expedient will apply for correcting its resulting deformity, which I have to suggest for the other, but it must be comparatively rarer that an osteotomy will be demanded for the latter injury. To this particular fracture, Lane's suggestion would apply with peculiar force. There is, perhaps, no other where incapacity is more likely to ensue. It is beyond question that the routine methods of treating all fractures of the leg alike, more especially trusting them to plaster-

of-Paris dressing for long periods, without opportunities for inspection, is responsible for these results. It is also a fact that the ultimate result of a fractured limb is often in strong contrast with the immediate result. Certain changes ensue within the joint—"progressive mechanical arthritis"—as age advances, and which are usually attributed to rheumatism.

The operations hitherto devised for the correction of Pott's deformity include: Refracture by subcutaneous drilling of the fibula and internal maleolus at the site of fracture, subcutaneous osteotomy and open osteotomy at the same locality, and Fenger's supramaleolar osteotomy, by removal of a wedge of the tibia and wiring.

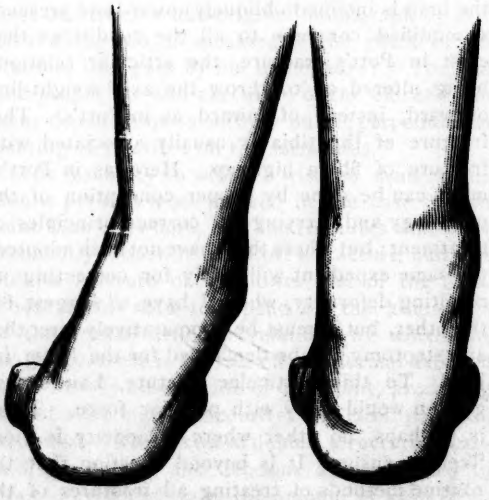
FIG. 3.



FRONT VIEW.

BEFORE. AFTER.

FIG. 4.



REAR VIEW.

BEFORE. AFTER.

The accompanying copies of casts, taken from cases operated on by me, will demonstrate the result of a still simpler, and I submit, equally effective procedure for the correction of this condition. It consists of a simple supramaleolar osteotomy of the tibia alone, similar to, in fact identical with, the Hahn-Langerbach procedure for the correction of valgus. The fibula was not touched, relying on its flexibility, after the tibia was divided, to restore it to its proper relation toward the interosseous space. Examination of the casts also will demonstrate the complete restoration of the normal axial relations between the leg and the foot, which is the sole object of treatment. The broadening of the articulation, which is one of the causes assigned for this disability, is corrected by the bringing inward of the external maleolus as the upper end of the lower fragment is drawn out when the foot is inverted after the tibia has been divided, and I can see a positive objection to the refracture of the internal maleolus, as its abnormal and uncorrected displacement will prevent this broadening of the intermaleolar space. The backward displacement of the foot, which is a common result of Pott's fracture, can be partially restored, as well as the rotary displacement described by Hamilton.

We have, therefore, a simple, safe expedient, within the capacity of anyone capable of accomplishing any ordinary surgical operation according to modern standards, that will only confine the patients a few days to bed, and, with the aid of massage, will give them the use of their corrected limb in from four to eight weeks, according to their age and the degree and length of time of pre-existing disability.

A NOTE ON THE INHIBITORY ACTION OF ACETANILID ON BACTERIAL GROWTH.

BY JAS. J. WALSH, A.M., M.D.,
OF PHILADELPHIA.

ACETANILID has, within these last two or three years, come to be widely used as a dusting powder in surgical practice. The unpleasant clinging odor of iodoform led surgeons to welcome anything that promised to replace it successfully. A number of powders, including various combinations of boric acid, had been used for some time but without much satisfaction, when on purely empirical grounds, acetanilid began to be em-

ployed. It has a number of advantages besides its freedom from odor. It is absolutely cleanly, disappearing completely in the secretions of the wound under ordinary circumstances; it is distinctly analgesic locally, and while it has, like iodoform, the power when used in large quantities, on an absorbing surface, of producing constitutional symptoms, these are not so severe or so dangerous, and more warning is given before the patient is seriously attacked.

Very little laboratory work has been done on acetanilid, and not much of this has been reported, but its use in dispensary practice has constantly increased, until now it has too firm a hold clinically to be displaced by any unfavorable dicta of the bacteriologists.

As a germicide in ordinary cultures of pathogenic or non-pathogenic microörganisms, it seems to be absolutely without effect. It is, of course, only very slightly soluble (1 part in 194 parts of water), so that it would indeed be a powerful germicide if solutions of it in various media prevented microörganisms from growing. Even where considerable quantities of it are present, however, as for instance, where bouillon is thickened by the amount of it present, living organisms may be found in it by culture-methods, even after it has been allowed to stand for weeks.

A series of such observations leads one almost inevitably to the conclusion, that acetanilid is absolutely inefficacious for the ordinary purposes of a dusting powder, and that it owes its vogue to the fad of an hour, initiated by the desire to get rid of the objectionable iodoform. This is the position that a number of practical bacteriologists have taken with regard to it.

There is, however, a series of observations that may be easily made, and that show that in some way, where it is present, it has a very valuable *inhibitory* action on the *growth* of all ordinary microörganisms.

If one half of a gelatin petri-plate, that has been exposed to the air for some time, be covered with a layer of acetanilid (in powder), while the uncovered half will show the development of colonies, some of which will usually cause liquefaction, none will appear on the half beneath the acetanilid. The powder need not be strewn on thickly, a slight uniform layer is enough, and should, of course, be put on *after* the exposure to give the experiment its value.

With water bacteria, the effect is more striking. If from ten to twenty drops of ordinary tap water (especially here in Philadelphia) be added to gelatin within twenty-four hours, from three hundred to three thousand colonies will make their appearance on the surface of a petri-plate poured from it. Many of these will be liquefying varieties. Here again, if one-half of the plate be covered by acetanilid as before, no colonies will develop, and no liquefaction will take place beneath it, while the other half of the plate will show large numbers, and soon be completely liquefied.

The pus microörganisms are inhibited in the same way. The effect of the acetanilid is very clear on the chromogenics. Colonies of *staphylococcus pyogenes aureus* or *citreus* would be so readily visible, if present, even beneath the white powder. Besides, the liquefying effect of these organisms fails, except on the part of the plate uncovered by acetanilid.

Needle cultures made into fresh media from beneath the acetanilid in all these cases, nearly always give positive results in the shape of normal colonies of the various microörganisms present, so that it is only inhibitory, not germicidal properties that are at work.

It is this inhibitory action of acetanilid evidently that has made it popular as a dusting powder, and its clinical value is due to something more than a mere fad. Just why its presence should have this effect seems not easy to tell. Boric acid, which is considered of little value clinically, has the same effect when used in the way described. Here, however, the reaction of the media, which becomes acid beneath the boric-acid powder, has a good deal to do with inhibition, bacteria failing to grow on acid media. Acetanilid, however, affects the reaction of the media slightly, if at all.

It is not that the powder keeps out the air and so prevents all aerobic bacteria from growing, for it was not spread thick enough for that, and inert powders, such as flour, starch, and marble dust, used in the same way, failed to have any effect on the growth, development, and liquefaction of colonies.

As it is only immediately beneath the acetanilid that no growth is seen, the line of demarcation in the media being a sharp one, the necessity for the constant presence of the powder in the wound is clear. Microörganisms are not destroyed and may begin to multiply as soon as the acetanilid disappears. Owing to its limited solubility, the tissue juices remove it very slowly, but the cleanness of wounds dressed with it, shows that it is completely removed after a time, and emphasizes the necessity for comparatively frequent renewal of it, as well as the plentiful use of it, originally.

Very probable its inhibitory action on ordinary air and water organisms, has a good deal to do with its success as an antiseptic powder. For the growth of these in the wound, doubtless, so changes the character of the tissue juices and exudates as to render them less resistant to the invasion of pyogenic germs. And this may be true, even of the most harmless varieties of non-pathogenic organisms. Some recent work in the Royal Laboratory at St. Petersburg (December, 1895), seems to show that it is absolutely true that the pathogeneity of intestinal microörganisms, notably the cholera bacillus, is dependent, to a great extent, on their association in the intestinal tract with such absolutely harmless varieties as the potato bacillus, or the *bacillus cucurbita* (cucumber), or even the ordinary molds, especially *penicillium glaucum*.

CLINICAL MEMORANDUM.

OROLINGUAL PARALYSIS AND SLIGHT MOTOR DISTURBANCE IN WRITING, OF THROMBOTIC ORIGIN; OPERATION; RECOVERY.

By J. T. ESKRIDGE, M.D.,
AND
EDMUND J. A. ROGERS. M.D.,
OF DENVER, COL.

HISTORY AND EXAMINATION OF THE CASE.

By Dr. ESKRIDGE.

CASES of orolingual paresis, or paralysis in which disturbance of speech-utterance or articulation is the chief symptom, are so rare as to be worthy of careful study. The following is of special interest, both on account of the limited lesion and the marked improvement following excision of the left degenerated cortical area for the lips and tongue.

M. D. E., male, aged fifty, white, single, born in West Virginia, laborer by occupation, living in Colorado eleven years, was admitted into the nervous wards of the Arapahoe County Hospital, December 12, 1895. Mother and one brother died of stomach trouble, father of diarrhea. No nervous or mental diseases in the family, so far as he knows. The patient had most of the diseases incident to childhood. He always indulged in alcohol, but rarely to excess. He enjoyed good health up to his thirty-fifth year, when he suffered from some kidney trouble. He seemed to recover perfectly from this, and was well until 1890, when he contracted a hard chancre. He had a few secondary symptoms, but none of these were well-marked. He considered himself in good health, although he occasionally suffered from headache, until the first of October, 1895. At that time he began to experience severe frontal and occipital headache. The pain was nearly constant, but exacerbations of pain were common during the latter part of the day and early evening. This continued, and about the middle of the month his eyesight began to fail, and by the 28th of October he was compelled to quit work, on account of poor vision. He remained in this condition until November 26th, when, while walking on a street in Denver, he began to feel very dizzy, and staggered against a wall to steady himself and prevent his falling. He was in this position for about an hour, and during this time he began to feel pain in his right hand. A few minutes after he felt the pain in the hand, the hand began to open and shut spasmodically, and about the same time he first experienced difficulty in speaking distinctly. He could think what he wanted to say, but could not articulate, except for a few words, so as to be understood. On trying to use the right hand after the spasmodic action ceased, he found it was nearly paralyzed. The right leg also was weak, and he walked awkwardly. After a few hours he improved somewhat, especially in the use of his leg and arm, but his articulation was very defective. About a week later he noticed that his limbs were getting weaker and his speech, which had improved, was again becoming very indistinct. His headache continued, but it was less severe than before the attack. Just what his condition was between this time and the day of admission to the hospital, I was unable to learn. The first four days of his stay in the hospital he was so stupid and talked so poorly that it was impossible to make a satisfactory examination, and much of the history of his case was gotten little by little, and more by gesture than by speech.

Examination, December 16, 1895: No ataxia in standing with eyes closed. His gait is halting; he walks forward fairly well, even with eyes closed, but in walking backward the right foot is not carried beyond the left. Slight ataxic movements in the right arm, none in the left. All the muscles of the legs fairly strong and about equal in strength in each leg, but those of the right are used awkwardly. Dyn.: R., 22; L., 102. All the movements can be made with the fingers of the right hand, but they are performed slowly and awkwardly. Lower right side of the face is nearly immobile, but the right corner of the mouth is a little more retracted than the left, and the lower right side of the face presents a wasted appearance when compared with the left side. He is unable voluntarily to retract or move the right corner of the mouth. He cannot whistle, as the lips on the right side fail to move at will. He can shut both eyes, but he cannot wink with the right eye. He says that he was formerly able to wink with either eye. The tongue is protruded in the median line, but it deviates to the right after being protruded a short time. Knee-jerks are about normal and not much increased by reinforcing. Plantar reflexes are absent. Tendo-Achillis increased. Cremaster reflexes: R., absent; L., present. Abdominal reflexes absent. All the deep reflexes of the arms are increased, and nearly the same on each side. Masseters absent. Tactile sense is everywhere present, but it seems a little more acute over the left hand than over the right. Localization and muscular sensations lessened in right hand. Other general sensory phenomena apparently nearly normal, but it is impossible to make a satisfactory examination, on account of his difficulty in speech-utterance and his apparent inability to comprehend just what is wanted. Hearing: Watch, R., ⅙; L., ⅓. The tuning-fork is heard better

in the left ear. Smell and taste present no points of interest. Eyes, R. V. equals $\frac{20}{20}$; fields narrowed; pupil normal in size and responds to light and accommodation; disk a little pale, but presents no marked changes. Central vision is the same in the left eye as it is in the right, but the fields seem normal. Other points about the same as noted in the right eye. All the external ocular muscles of both eyes act well.

Mental Condition: He seems stupid, and says that he cannot think, as his mind becomes blank as soon as he tries to think on any subject.

Speech defect: On thoroughly and sytematically testing his power of speech, no form of sensory aphasia is detected. He understands printed and written words. He reads inaudibly and comprehends what he reads. On his reading aloud, his articulation is so imperfect that it is impossible to understand what he reads, except a simple word occasionally, which by an explosive effort of the lips, he pronounces distinctly enough to be understood, if one is paying close attention. He can write voluntarily, at dictation, and copy, but he had never learned to write well, and he forms the letters very imperfectly with the left hand. He can write a little with the right hand. He copies printing and writing into script. When asked if he understands what he reads, he nods his head, and with an explosive movement of the lips says "Yes." He repeats simple words after another. It is observed that the greater the effort that he makes to pronounce a word, the more nearly he succeeds in pronouncing it distinctly, thus differing from the defect in speech due to a lesion in Broca's convolution. As well as can be determined, he has no difficulty in thinking in speech. He complains of constant headache.

He was placed upon increasing doses of potassium iodid, and a dram of blue ointment by inunction was ordered night and morning. A careful record of the temperature in each axilla was kept, but little deviation from the normal was observed, and the temperature was usually about the same in each axilla. The pulse and respiration showed nothing abnormal. He was examined two or three times each week, and the record shows that he improved, except in his ability to pronounce words. The headache became less, but did not disappear. He looked less haggard and depressed. The right hand and arm gained in strength, and the right leg was used much better.

On January 2, 1896, the following notes were made: "The right arm and leg are much stronger and preserve greater freedom of motion than on December 16, 1895. The reflexes remain about the same. Tactile sense slightly lessened in the right hand, especially on the distal portions of the fingers and on lower right side of the face. Localization and muscular sensations decidedly lessened in right hand. He usually fails to locate the contact of a camel-hair pencil on the right side of the lips and tongue. He still complains of headache and a sensation of exhaustion. His appetite is poor. Mentally he is a little brighter. His power of articulation has improved only very slightly. There is some atrophy of the lower right side of the face. The tongue deviates slightly to the right in protrusion. Vertical and transverse corrugation of the forehead seems about equal on each side. He opens and shuts both eyes at the same time well. He can wink only with the left eye. He is unable to whistle or move the right corner of the mouth. In trying to utter words he makes explosive efforts with his lips, and in pronouncing long words he unduly separates the syllables. In uttering the word 'Columbus' he makes three distinct efforts, so the word sounds thus: 'Cul-um-bus.' 'Truly rural': 'too-lil-loo;' second effort, 'too-e-roo-le.' 'Hurry:' 'urry,' 'flurry,' 'furry.' 'W:' 'dub-you;' second effort, 'dub-ble.' In his letter to-day all the words are spelled and arranged correctly, but the letters are so poorly formed that it is almost impossible to read what he has written, unless one knows what he is trying to write."

The first fifteen days that the patient was in the hospital he steadily, but rather slowly, improved under antisyphilitic treatment. About the first of January he ceased to improve and began to retrograde. His stomach was disordered, he looked pale and haggard, ate little, and was nervous and depressed. His speech-utterance was about as bad as it was on the 12th of December, the day of his admission into the hospital. He was placed on quinin, strychnin, and arsenic, and urged to take nourishing food. Finally his headache became so troublesome that I decided to recommend a surgical operation for its relief.

Diagnosis: The symptoms pointed to a growth or a vascular lesion. There were many points in favor of the presence of a tumor. The headache, impaired vision, and distinct localizing symptoms were certainly in favor of a tumor. The absence of choked disks in a small growth in the anterior portion of the cortical surface of the brain is not uncommon. But the rapid onset of distinct symptoms of a localized brain lesion, while it may occur from a tumor, is much more often due to vascular trouble. The wasting of the muscles of the right lower side of the face indicated an irritative lesion in the cortical face center, but a growth rarely occurs in the motor cortical area of the brain without repeated convulsions. The patient's age and his anemic and depressed condition made me suspicious of a malignant growth. It seemed very probable that a growth might have existed for some time, subcortically to the orolingual area, in an ignorant laboring man, without having attracted special attention, and that sudden closing of one of the branches of the left middle cerebral artery might account for the sudden appearance of the paralysis and the disturbance in speech. After carefully studying the case for a number of weeks, I was unable to come to any positive conclusion in regard to the nature of the lesion. The man's condition was becoming worse and his headache was very troublesome, so that surgical aid seemed to offer the only hope of relief. I explained to the patient that he might not gain much from an operation beyond relief from pain, and that his paralysis and speech-defect might still persist. He left the matter entirely with me. I asked Dr. Rogers, the surgeon on duty at the hospital at the time, to see the case with me. We decided that an operation could do no harm, as all other means had failed to relieve the symptoms, especially the pain. January 17th was set for the operation. He was

reëxamined on the 16th. Dyn.: R., 52; L., 94. All other conditions were about the same as on the 2d inst., except that the patient was weaker than on that day.

OPERATION AND SURGICAL ASPECT OF THE CASE.

By Dr. Rogers.

January 17th, 12.30 P.M.: On removing a three-quarter inch button of bone from over the lower ends of the central convolutions, and enlarging the trephine opening to about one and a half inches in diameter, the dura seemed lax, and did not bulge. No pulsation of the brain was felt or seen. Dr. Eskridge applied the Keen double electrode, attached to a large Flemming faradic battery, to the lower portion of the exposed surface of the dura, but elicited no response from any muscles. On his carrying the electrodes a little higher, the thumb and fingers of the right hand flexed. After holding the electrodes in the same position a few seconds, the muscles of the right side of the neck contracted, the head turned to the right, and a slight convulsive movement occurred on the entire right side of the body, except in the muscles of the leg. On incising the dura over the supposed face center, the latter, over an area about three-fourths of an inch in diameter, seemed soft and degenerated. The broken-down area of the cortex, which looked cystic, was excised, without apparently cutting into the white substance of the brain, below. The brain was seen to pulsate as soon as the dura was incised. Gold foil, the size of the opening in the skull, was placed between the scalp and the dura and the wound completely closed. He made a rapid and uneventful recovery from the surgical operation.

MICROSCOPICAL EXAMINATION OF THE EXCISED PORTION OF THE CORTEX.

By Dr. Axtell.

The brain-cells are apparently lessened in number. They seem to be smaller than normal and to present open spaces about them, which are filled with fluid and granular material. The blood-vessels show slight thickening of intima and adventitia. The neuroglia is somewhat increased in amount, and shows an increase in its cellular elements. The pathologic diagnosis is local cerebritis.

CONTINUATION OF THE RECORD, WITH REMARKS

By Dr. Eskridge.

The degenerated portion of the cortex was circumscribed, about half an inch in diameter, and apparently limited to the left face area. The affected portion was much softer than the surrounding cortex, and, on cutting into it, it had a cystic appearance and contained a few drops of straw-colored watery fluid. The pia was firmly adherent to the cortex over the degenerated area. No muscular contraction occurred when the electrodes were applied to the dura over the affected portion of the cortex, nor when the electrodes were brought into direct contact with this portion of the brain after the dura had been incised, but that the face area was involved by the lesion seemed to be proved by the thumb and fingers of the right hand contracting on the electrodes being carried just above the area invaded by the pathologic process.

After the operation the lower right side of the face was almost completely paralyzed, but the tongue did not deviate much to the right on protrusion. The right hand was almost completely paralyzed for a few days. His power of speech-utterance was worse than before the operation, so that scarcely a word that he attempted to speak could be understood. Deglutition did not seem to be much affected. Tactile and localization sensations were lessened on the skin covering the affected muscles, but pain and temperature sensations remained nearly normal. He experienced no difficulty in understanding or thinking in speech. The clinical record after the operation shows nothing of any special importance. The temperature remained about the same in each axilla, and was practically normal after the first few days.

January 20th, the following notes were made: "Dyn.: R., 32; L. 86. Lower right side of the face, including nose, is completely paralyzed. The right eye can be opened and shut with the left, but the upper lid of this eye cannot be moved without moving the corresponding lid of the left eye. The tongue is protruded nearly in the median line. Pronunciation worse than before the operation. Localization is perverted in right hand, but normal over the face, except on right side of upper and lower lips. Temperature and pain sensations apparently normal everywhere. Tactile sensation seems very good, except in right hand and over right side of lips, where it is slightly lessened in acuteness." It will be observed that the right hand, three days after the operation, was about two-thirds as strong as it was immediately before, thus showing the hand-center had not been excised. From the 20th of January until about the 1st of March he scarcely showed any improvement. He did not seem to suffer much from the immediate effects of the operation, but he was so anemic and weak that he did not rally, gain strength, or put on flesh. He suffered a great deal from headache, was despondent and nervous, ate but little, had great difficulty in digesting his food. He continued weak and anemic for five or six weeks after the operation.

Early in March improvement became manifest. He began to utter his words more distinctly, his headache lessened and finally disappeared, he put on flesh, and soon looked much better in every way. He was now required to write a letter daily and to read aloud for an hour or so each day. He has made slight improvement in writing, but it is yet almost impossible to read what he has written. He, himself, has great difficulty in reading his own writing, except immediately after he has written. As he began to form many letters so that they could be made out, it was found that he misspelled and occasionally transposed phrases. It must be remembered, however, that he never learned to write well, and probably always spelled poorly.

Examination, May 15, 1896: The patient looks the picture of health, and seems bright and cheerful. His gait is good and he can walk briskly without scarcely showing any limp in the right leg. With eyes closed he walks backward and uses the right leg as well as the left. There is no ataxia, except in the right arm and hand. He uses the right hand and arm slowly and awkwardly. All the leg muscles are strong. Dyn.: R., 100; L., 115.

Knee-jerks both increased, right a little more than the left; ankle clonus and plantar reflexes absent; tendo-Achillis and cremaster reflexes present; abdominal reflexes absent; all the reflexes of the arms increased, the right more than the left; masseters absent; all general sensory phenomena normal. Hearing, taste, and smell present no points of especial interest.

Eyes: R. vision, $\frac{4}{5}$; L., $\frac{4}{5}$. Fields are normal. The pupils are normal, equal in size, and react readily to light and accommodation. All the external ocular muscles act normally. The fundi and disks present no pathologic changes, except that the disks look a little pale.

The right lower side of the face is wasted in comparison with the left. He says that his face was symmetrical before the beginning of his present trouble. The parts around the mouth, on casual inspection, seem drawn to the right, but this appearance is due to the wasting, as the center of the lips still remains in the median line. He is able to move the right corner of the mouth much more freely than he could before the operation. Both eyes close well at the same time, but he cannot close the right eye without closing the left. The tongue deviates slightly to the right in extreme protrusion. He is unable to whistle; formerly he could whistle quite well.

Speech: The speech-defect is of the same character in every particular as was noted at the former examination, but he articulates much better. With a decided effort he can slowly and deliberately pronounce most words. Sometimes it requires two or three attempts to pronounce a long word, but in the end he usually succeeds. The lips and tongue are not paralyzed, but ataxic. They present very much the same condition that is found in the muscles of the right hand and arm. He has no difficulty in thinking in speech. He still writes much worse than he did before the paralysis of the right hand occurred. The writing with the left hand is fairly good for one who never wrote even an ordinary hand. He does not transpose any letters. Simple words he spells and writes correctly. If a word is spelled for him, he does not write it any more rapidly or correctly than when he is allowed to spell it himself. The defect in writing seems almost entirely due to the ataxic condition of the muscles of the right hand and arm. His headache has entirely disappeared, and his mind is clearer, although specific medication was never resumed after the operation.

The results of the operation in this case fully justify its repetition in similar cases. There is no doubt that localized cerebritis acts as an irritant, giving rise to headache and interfering with cerebral function. Kussmaul and others give muscular wasting of the face, in connection with defect in speech, as one of the diagnostic symptoms of bulbar lesion, in contradistinction to one occurring above the nuclei of origin of the cranial nerves concerned in articulation and phonation. But few writers, so far, have laid much stress upon the fact that an irritative cortical lesion may cause rapid and pronounced wasting in the group of muscles involved. The second case reported in this series is a striking example of this. One of the chief symptoms between atrophy of the muscles from a nuclear lesion and from one in the cortex is that in the latter the affected muscles respond normally to electricity, while in the former they do not. The wasting from irritative cortical lesions is probably due to an inhibitory influence on the trophic centers, while that which occurs from a nuclear lesion is due to the direct effect on the trophic centers of the muscles themselves.

The defect of speech from orolingual paralysis will be considered more fully in a paper devoted to aphasia.

July 3, 1896, William E. was so well that he decided to leave the hospital and earn his own living. At this time, he talked so as to be readily understood, could communicate his thoughts in writing, walked with only a slight limp in the right leg, and used his right hand fairly well.

Nothing further was heard of him until the morning of July 8th, when he was found in his room in an unconscious condition and was supposed to be suffering from a poisonous dose of morphin, as his pupils were pinhole in size and the respiration was slow and irregular.

He was immediately taken to the county hospital, and I saw him shortly after his admission; 11.30 A.M., he was completely comatose; the pupils very small, equal in size, and did not respond to a strong light; the left eye diverged and turned slightly upward. Corneal reflex; R., absent; L., present. Knee-jerks, both enormously increased and attended with slight clonus. Ankle-clonus present, but slight, and a little more pronounced on the left side than on the right. The resident physician stated that when the patient was first brought into the hospital, the ankle clonus and the other deep reflexes were more marked than when I examined him. Plantar reflexes absent. Tendo-Achilles: R., slightly increased; L., decided and attended by slight clonus; cremaster and abdominal reflexes absent. All the deep reflexes of the arms, including the deltoid and pectoralis major, were greatly exaggerated, but more marked on the left than on the right side. The masseter reflexes were not tested. Pulse was 108, small and very compressible; respiration 14 per minute, intermittent, short, and spasmodic, or jerky, in character. One hour and a half before I saw him, his axillary temperature had been: R., 100.8°; L., 99.8°. At the time of my first visit, it was R., 102.2°; L., 102.2°. Unconsciousness was so profound as to make it impossible to test any form of sensation. The bladder was emptied by means of the catheter, and the urine found to be free from albumin or sugar. The lungs and heart presented no evidence of disease.

From the loss of the right corneal reflex, on account of the enormous increase of the deep reflexes, greater on one side (the left), the jerky character of the respiration, and the elevated temperature, without any renal or intrathoracic complications to account for it, especially as the temperature had increased about two degrees in 90 minutes, opium poisoning was excluded. Instead, a diagnosis of thrombotic occlusion of a vessel affecting the arterial blood supply to the right side of the pons was made.

At 6 P.M. the axillary temperature was: R., 104.2°; L., 104.2°. He gradually sank and died the next day about noon. The temperature did not go above 104.2°. It fell one degree in each axilla from 6 P.M. of the 8th to 6 A.M.

of the 9th, but rose to 104.2° just before his death, a few hours later.

Autopsy four hours after death.

On reflecting the scalp, the gold foil was found *in situ*, but it was perforated in several places, and adhesions between the dura and scalp had formed through the openings in the gold foil. There were no abnormal adhesions found between the dura and bone. At the seat of the operation, the membranes were found firmly adherent to each other and to the brain substance. No other adhesions, except the one just noted, were found between the dura and soft membranes. In the left middle cerebral artery, just peripheral to the point at which the anterior cerebral is given off, there was a patch of arteritis on its under and posterior surface about one-quarter of an inch in length and extending about half-way around the vessel. The coats of the vessel were thickened and roughened, but the lumen of the artery was not occluded. The anterior cerebral and right middle cerebral arteries appeared normal. The right posterior cerebral artery presented several patches of arteritis that completely encircled it. The right posterior choroid artery, which is a branch from the posterior cerebral, was completely occluded. The left posterior cerebral, the basilar, and vertebral arteries, presented no further evidence of disease beyond little whitish spots that were evidently the seat of beginning arteritis. The pia was readily stripped from the brain, except at the point of the operation, where it could not be detached without taking a portion of the cortex with it.

It was found that the dura had been incised, and the cortex scraped at a point situated at the lower end of the fissure of Roland, and that the adjacent portions of the cortex of the ascending frontal and ascending parietal convolutions had been invaded by the surgeon's spoon. The cortical substance immediately around the site of the operation of the convolutions was slightly softened and a little yellowish in appearance. On the under surface of the posterior portion of the operculum there was an area of yellowish softening about one-quarter of an inch in diameter and not more than one line in depth. The insula and the third frontal convolution were normal in appearance. In the left lenticular nucleus, at a point corresponding to the angle of the internal capsule, there was found an old cyst about one-quarter of an inch in diameter, and just behind this, with an intervening bridge of white, fibrous-looking tissue, another cyst of about the same size was discovered. The cysts contained a yellowish, flocculent, watery liquid, evidently the result of softening from arterial occlusion. The remainder of the left side of the cerebrum, the entire right cerebrum, and the whole of the cerebellum, presented no abnormal appearance. The crura seemed normal. On sectioning the pons and medulla, the entire right side of the pons and the upper portion of the medulla of the same side, showed evidence of marked vascular change. The tissue was less firm than on the opposite side, appeared edematous, with spots of hemorrhagic extravasation, which was in marked contrast to the corresponding structures on the left side.

MEDICAL PROGRESS.

The Effects of High Altitudes on the Blood.—SCHAUMAN and ROSENQUIST in the *Centralblatt f. Innere Medicin*, May 30, 1896, contribute a valuable paper to the better understanding of the effects of high altitudes on the human body. Up to the present time, most of the experimental work on this subject has been done by the French and Swiss, Viault, Regnard, Egger, Miescher, Mercier, and others. These investigators have definitely proved that by a relatively short residence in a high altitude, the number of red blood-cells per cubic millimeter is increased, the maximum being reached in from two to three weeks, and that a low region, this increase is soon lost.

Grawitz and Sahli have tried to explain this increase by saying that the blood in the dry high atmosphere became more concentrated through loss of some of its serum; but experiments with rabbits have failed to make good this claim, and Zuntz has pointed out that on account of the osmosis in the body, in order to increase the blood-cells 20 per cent., it would be necessary for a person to lose from twelve to fifteen pounds in weight, which does not take place. The explanation is, therefore, still to seek.

Schauman and Rosenquist experimented in the laboratory. A dog was enclosed in a glass chamber at a considerably diminished pressure of the atmosphere (450 to 480 mm. of mercury). The other characteristics of high altitudes were wanting, as the air in the chamber was moist and warm, and not very pure. Still in three weeks the blood count had increased from 5,000,000 to 7,200,000, and the hemoglobin from 68 to 80 per cent. Two months after the animal was again at liberty, these figures were still above normal, viz., 6,490,000 and 81 per cent.

The authors conclude that the effects of high altitude on the blood, is not due to dryness, but to rarefaction of the air; and that the increase in red blood-cells is an actual one, and not an increase relative to the serum. This is still further supported by the fact that the blood from the dog, after his removal from the rarefied chamber, and while the blood count was diminishing, often contained many "shadows" of blood-corpuscles—a condition which has been noticed after the injection of substances which disintegrate the blood.

An Extraordinary Retention in Utero of the Fetal Head.—In the *Centralblatt f. Gynäkologie*, 1896, No. 24, is mention of a case reported by TOTH of Budapest, in which the attending physician pulled so vigorously upon the breech of an eight month fetus that its neck parted, and the head remained in utero, despite all his exertions to remove it. The mother, a young III-para, recovered with some fever, and enjoyed good health for a year. During this time, irregular hemorrhages and foul-smelling discharge continued, followed by the occasional discharge of bones. At the end of sixteen months, the cervix was dilated, and the large bones of the skull, which remained, were removed. They were extensively adherent to the uterus, and the free hemorrhage which followed their removal was controlled by tamponade. The patient made a quick recovery. Such tolerance on the part of the uterus must be very unusual.

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SATURDAY, AUGUST 15, 1896.

THE CHARITIES COMMISSIONERS.

THE recommendation which has been made by the framers of the Greater New York Constitution, that the most important Commissions be comprised in one individual, is to be heartily commended. The unity of the Charities Commissioners, instead of a trinity, as exists to-day, would, in all probability, have obviated the farce now being enacted in Bellevue Hospital under the present Board.

A single-headed commission would undoubtedly bring to the position an incumbent of sufficient intelligence to appreciate the fact that the duties of the office do not involve the exploiting of secret cures for drunkenness. Swelled though his head might be by the importance of his official functions, it would hardly reach such dimensions that he would deem it his province to investigate, for the medical profession, the efficacy of drugs and compounds for the purpose of adding a new remedy to our pharmaceutical list. Let us hope that he would have sufficient perspicacity to comprehend the fact that any conclusion that he, as a layman, might reach in such matters, even though he might previously have been a manufacturer of furniture, or even a harness-maker, would hardly possess sufficient scientific value to commend them to anyone, except, possibly, an interested stockholder or the poor, ignorant charity patient, whom it is his duty to protect from charlatanism and imposition.

But not only the illogical position in which the Commissioners have placed themselves, but also the great wrong they are doing, by lending the moral support of Bellevue Hospital to a secret, capitalized nostrum, has already been made clear to them in the columns of the NEWS. The error of their way has been pointed out, and a method of retreat consistent with dignity and self-respect has been within their grasp. But each day of persistence in their present course is burning their bridges behind them; and the time is fast approaching when the profession and the community will rise in their indignation and insist that the present Board shall be wiped out. They are failing of their duty in one direction, while they overstep their prerogatives in another. As our esteemed contemporary, the *Medico-Surgical Bulletin*, says:

"We are determined that no injustice shall be inflicted on the pauper; that he shall not be experimented with in any way, but that, on the contrary, he shall receive the treatment which is his due, all the more so because he is defenseless. Stop this nostrum business at once, therefore, Mr. Commissioners, or you will find your heads in a worse hornet's nest than you ever came in contact with in your younger days."

THE FALSE AND THE TRUE IN PHYSICAL BEAUTY.

WE sometimes imagine that the tedious "setting-up drill" of all systems of military training is mainly for the purpose of giving the lines of the regiment a uniformly erect appearance upon parade, chiefly a matter of display, but this is far from the truth. On the contrary, it is insisted upon so invariable because the experience of countless generations has shown that the elements which make up an erect, "soldierly" bearing are the very ones which indicate the development of the highest possible degree of vigor, of speed, and of endurance.

The same will be found true of the various regions and parts of the body. We will begin with a region where the standards are supposed to be entirely at variance, the waist line, whose flowing curves from armpit to hip are rightly regarded as forming the chief beauty of the trunk outline. Fashion and popular taste demand simply a rapid inward slope to as small a waist as possible, regardless of all other elements of the curve; physiology and hygiene denounce this as unhealthy and crippling. Beauty and health appear to be at loggerheads here. But it is only with a false ideal of beauty that there is any conflict; call in the artist, the anatomist, to settle the dispute, and he will instantly decide with the physiologist. The ideas of "beauty" of the fashion-plate, the modiste, and Mrs. Grundy, are often widely different from those of the artist, the architect, and the naturalist; and it is with the latter only, that we are concerned. We may well paraphrase Madame Roland and exclaim: "Oh Beauty, what crimes are committed in thy name!" In the vast majority of these conflicts between beauty and common sense, the fault lies in a false ideal of beauty. The ideal waist of the artist is that of the Venus de Milo, and every line of it fulfils to perfection the demands of the hygienist for the highest lung power, combined with ease and vigor of movement.

Another similar instance of conflict between grace and efficiency, is that between the popular and hygienic ideals of a beautiful foot. These differ widely indeed. The popular demand in a feminine foot is that it shall be a narrow, pointed elongated body curved, or more accurately humped, into a nearly horse-shoe shaped arch, the pillars of which are within a few inches of each other, and consist of the compressed tips of the toes, and a high narrow heel brought forward almost directly under the center of gravity. Its functions as an organ of support and locomotion are ruthlessly disregarded, and instead of a series long, low, graceful arches, it is distorted into the resemblance of a link of sausage pointed at one end, or a banana in opisthotonos.

The physician, the skilled pedestrian, denounce it as deformed, useless, painful, and almost disabled; and again, the artist cordially unites in their attack, and demands the very same outlines that they do.

The plan of the healthy, natural foot is an exquisite combination of arches—one long and low from the heel to the balls of the toes, the other short and high, crossing this at right angles a little in front of the ankle-joint. These are composed mainly of a number of wedge-shaped bones, but there is little that is "bony" or rigid about them, as their form is mainly preserved by the tension of three muscles of the leg, whose tendons attach themselves to both the upper and lower surface of their keystones in a most ingenious manner, if we may use such a term with becoming reverence. Thus the weight of the body is naturally supported upon the intersection of two graceful, yielding, living arches, which, by their expansion and contraction, give a beautiful, springy elasticity to the gait. But in order to do this, they must, like all other springs, expand so that the foot ought to become markedly both longer and wider when weight is placed upon it. For this change in form, the modern "pretty" shoe makes absolutely no adequate provision, and not only this, but by throwing a ridiculous peg-shaped heel far forward to give an appearance of shortness to the foot, the longitudional arch is completely broken, the weight thrown directly upon the sensitive instep, the center of gravity of the whole body disturbed, and the elasticity of the gait destroyed.

Mechanically, the human foot is one of the most exquisitely adjusted, effective, and most enduring instruments in the world—it will run down and outlive any hoof, pad, or paw that moves. Artistically, for beauty of outline, harmony of curves and dimples, and grace of movement, it is equally unsurpassed. Here again, beauty goes hand in hand with strength, and fashionable deformity with feebleness.

The beauty of finely molded shoulders and rounded arms, and tapering wrists, is dependent not upon the form of the bones, nor even upon the amount of adipose or fatty tissue—mere plumpness is not beauty—but upon the live contour and rippling grace of muscle.

As for beauty of complexion, although universally decried as only "skin deep," in its natural

and only truly attractive form, it affords one of the best and most reliable indices of health and vigor. It may be imitated, but no paints, cosmetics, or "local treatments" of any sort can begin to reproduce the rich, warm, living depth of coloring, the translucent creamy whiteness, and the velvety gloss of surface which is as absolutely dependent upon pure blood and springy muscle, as a red June rose is upon its vigorous stem and roots in a fertile soil. A fine complexion instead of a mere surface finish, is the exquisite blossom of health and purity throughout the entire body, and literally "goes to the bone" as its counterpart "ugliness" is proverbially declared to do. An artificial complexion usually deceives nobody but its wearer.

In that important realm of decorative art, dress, the coincidence between beauty and healthfulness is no less striking. From the Greek chiton and the Spanish mantilla to the graceful Persian divided skirt and mantle, which the celebrated Worth kept hanging upon the walls of his studio as his ideal of the beautiful in the feminine costume, the lines of artistic beauty and of hygienic utility coincide almost absolutely. The corset, the bell-skirt, with its "street-cleaning" attachment, the crippling multiplicity of petticoats, and the ridiculous bustle, are offenses alike against the canons of art and the rules of health.

LATEST DEVELOPMENTS OF THE ROENTGEN X-RAYS.

Improvements of great importance have been effected by the General Electrical Company of Berlin in the Röntgen apparatus, by the employment of the new vacuum tube devised by Dr. Max Levy, the engineer of the Company. It is now possible to inspect the interior of Highmore's antrum, the frontal sinuses, the throat, the heart, and the lungs, through the use of this tube and the fluorescent screen. Levy's vacuum tube contains two concave electrodes, with a disk of platinum midway between them tilted at an angle of forty-five degrees. The disk is coupled to one of the electrodes, and the wires of the induction coil are attached so that the anode is duplicated. The fluorescent screen used is about ten by eighteen inches in measurement. Its surface is covered by small crystals of platinocyanid of barium dusted on after covering it with some adhesive material. It has been found by several experimenters that impregnation of a cardboard surface with this or similar material does not furnish a screen that will be fluorescent. It is necessary that the crystalline form of the substance used should be retained, in order that the picture may be seen on the screen.

In the past, the utility of the skiagraphic process has been limited by the fact that it has been impossible to focus the rays with certainty to any required depth in the opaque subject. The result was experimental in every case, and not until the skiagraphic negative had been developed, after a tentative exposure to the invisible rays, could the operator know what he had obtained. By means of the screen, however, a definite view can be obtained at once, and a skiagraph need not be made at all. Immediate inspection is possible with Levy's tube and the screen. In a test made in the offices of the London *Lancet*, pictures of the contents of the thorax, of the neck, and of the stomach were shown, one after the other.

The practical utility of the apparatus is seen in certain cases of disease in which valuable knowledge was obtained by inspection of the screen. In a case of arteriosclerosis, in a man aged fifty-six years, the thickened condition of the radial and ulnar arteries was seen, as well as the doubly increased size of the aorta, and the fact of the descent of the diaphragm with each inspiration to a distance of only three-quarters of an inch was accurately observed. In another case, that of a young man aged twenty-six, who had suffered from a pulmonary hemorrhage a year and a half previously, shadows due to the calcification resulting from the old disease were seen in the right lung, while the other appeared normal. These results could not be reached by other methods of examination. The diagnosis of enlargement of the heart was confirmed in two cases of mitral disease by the enlarged shadows on the screen. One of these cases showed also great hypertrophy of the left ventricle. Calcification of the aorta was revealed in one case. The improved Röntgen apparatus has thus become valuable, in confirmation of diagnosis

not only, but also in deciding with precision concerning existing conditions, which otherwise would be obscure and puzzling.

ECHOES AND NEWS.

Meeting of the British Medical Association for 1897.—The British Medical Association at its recent meeting in Carlisle accepted unanimously the invitation of the Montreal branch to meet in Montreal in 1897. The date of the meeting has not yet been positively decided upon, but will probably be the latter part of August.

Prince Bismarck an M.D.—On the occasion of the twentieth anniversary, on July 16th, of the opening of the Imperial Office of Health in the city of Jena, the faculty of the university conferred upon Prince Bismarck the honorary degree of M.D. Prince Bismarck is now possessed of all the doctor's degrees in the gift of the German universities.

Poisoned by a Woman's Decayed Tooth.—Dr. D. C. Sutherland, a dentist of Baltimore, is suffering from blood-poisoning, which he contracted while extracting a much-decayed tooth, a piece of which broke off and flew into Dr. Sutherland's left eye. Symptoms of blood-poisoning appeared, and it is feared that the eye may have to be removed.

Dr. Love and the Marion-Sims College.—Dr. I. N. Love has found it incumbent on him to sever his connection with the Marion-Sims College of Medicine of St. Louis. The members of the Faculty of that institution embrace the occasion to express their appreciation of his past services and to extend to him their hope that in all his future connections he will find both pleasure and profit.

Formalin in Ophthalmic Practice.—Dr. Dahrenstaedt, an eye specialist, has employed formalin with extraordinary success in two cases of ulcus serpens corneæ with hypopyon. Both of the patients came under treatment on the same day. Instillations of formalin, one part in two thousand, were made every hour from six in the morning until eleven in the evening, occasionally a drop of atropin solution being also injected. In five or six days both eyes were quite out of danger, and after a fortnight the healing process is still going on favorably and without irritation.

Veratrum Viride in Eclampsia.—Dr. Charles Jewett of Brooklyn, N. Y., is engaged in collecting statistics with reference to the value of veratrum viride in the treatment of puerperal convulsions. He will be glad to receive brief reports of cases from physicians who have had experience with the drug. What is especially desired is a statement of the number of convulsions in each case before the veratrum was administered, the quantity of the drug used, the mode of administration, and the results obtained. Due credit will be given.—*Brooklyn Medical Journal.*

The Difference Between the Highwayman and the Quack.—The ancient highwayman was a considerate person. His demands might sometimes seem urgent, but they kept within certain bounds. He gave you a choice of evils. If you would surrender your money, you might keep your life; and doubtless he frequently praised himself for easing you of that which is often a snare. He merely demanded your money or your life. The modern quack doctor is a much more bloodthirsty character. He has no such scruples as the highwayman, and no such moderation in his demands. With him there is no alternative. He makes his victim pay him for robbing him of his health. He wants both money and life.

The Lowest Possible Death-Rate.—The *American Practitioner* asks the question, What is now regarded as the minimum death-rate for an urban population? The late Dr. Parkes fixed 17 per 1000 as the "mortality incident to human nature," and in his time—the infancy of hygiene and sanitation—even that figure seemed Utopian. But what shall it be now fixed at in view of the reduced rate in Greater London? In 1894 the death-rate had fallen from 20.5 for the decennium, 1881–90, to 17.7 per 1000; and last year, 1895, when the mean was 19.7, there were sanitary areas in the great metropolis with the following figures: Wandsworth, 14.8; Lee, 14.5; Lewisham, 14.4; Stoke Newington, 13.4; and Hampstead, 12.

Intrinsic Value of Public Parks.—That public parks in cities are good investments from a sanitary standpoint goes without saying. That they are also profitable as a pecuniary investment is shown in a recent report by J. Clyde Power, landscape engineer, recommending extensions of the park system in Indianapolis. He cites New York as a notable instance of the great increase of value accruing to land in the vicinity of parks. In 1856 the assessed valuation of the three wards adjoining Central Park was $20,429,565; in 1873 it was $236,081,515—a gain in seventeen years of $215,651,950. The natural average increase of three other wards in the city, taken from the total excepting those adjoining the park, showed only $53,000,000, thus proving the earning capacity of the park to be $183,081,515. In Brooklyn, in 1864, Prospect Park containing 515 acres, was acquired, and the increase in the valuation of surrounding property in three years was thirty-eight per cent.

Medical Progress in Japan.—Competent European critics announce that the medical service of the Japanese army in the late war between Japan and China was conducted with a thoroughness and efficiency that give it a first rank even among the western nations. This is another evidence of the rapid strides that Japan is making in her modern civilization. It is hardly forty years since medicine in Japan was represented by superstition and charlatanism that surpassed even the crude appliances of the Middle Ages. Now the medical faculty of Tokyo University is said to be as perfectly organized and administered as that of Berlin University. The medical classes in the University and schools are crowded with students who zealously covet the diploma of Scholar in Medical Science, which is the equivalent for the American M.D. Hospitals for all classes of diseases have been instituted in Tokyo.

and the chemical and bacteriological laboratories are abreast in their work with Germany and France.

Doctors and Lawyers.—In the speech of Mr. Justice Vaughan Williams, at the annual presentation of prizes to the students of the Charing Cross Hospital Medical School, he declared that there was a considerable affinity between the professions of law and medicine. Both required the same qualities, both were the recipients of confidences from their clients, and he would add that the clients rarely found their confidences misplaced. He, as a lawyer, often came into contact with doctors in the law courts, where the most important issues were often determined solely on the evidence of medical experts, who were, for the most part, safe guides in the administration of justice. One point, however, in which the professions differed, was that the medical profession was essentially progressive, while the legal profession was in a sense stationary. If the doctors of the last century came to life again, they would know comparatively nothing of contemporary medical science, but if the judges of former times were installed in the law courts to-morrow, they would try the cases quite as well, if not better, than the judges of to-day.—*British Medical Journal.*

Baths in the Public Schools.—While this subject is being agitated in Boston and some other parts of this country, the city of Milan has brought it to a practical trial. The experiment was recently made in that city at one of the communal schools, in the presence of civic representatives, of the municipal medical adviser, Dr. Uffreduzzi, and of Dr. Sacchi, of the clinical staff of the Ospedale Maggiore. Forty boys, accommodated in a disrobing-room fitted with benches, were made to strip, and covered only by their large drying towels, were led in relays of five to a contiguous hall, where they were all made to take the douche. Thereafter, provided with soap, they cleansed themselves from head to foot with fresh water and returned to the disrobing-room to dry and dress themselves. The mechanism of the douche is simple. Five small reservoirs are suspended in a row at a height of two and a half yards from the floor and furnished, laterally, with two chains. Pulling that on the right the boy is douched *a colonna* (in a volume of water), or pulling that on the left he is douched *a pioggia* (in a shower). The locale has been modeled on the lines of similar locales in barracks, and may be heated in winter.

Ten Hygienic Aphorisms.—The late Dr. Frank H. Hamilton, of Bellevue Hospital, is said to have framed the following decalogue of health precepts: (1) "The best thing for the insides of a man is the outside of a horse. (2) Blessed is he who invented sleep—but thrice blessed the man who will invent a cure for thinking. (3) Light gives a bronzed or tan color to the skin; but where it uproots the lily it plants the rose. (4) The lives of most men are in their own hands, and, as a rule, the just verdict after death would be—felo de se. (5) Health must be earned—it can seldom be bought. (6) A change of air is less valuable than a change of scene. The air is changed every time the wind is changed. (7) Mold and decaying vegetables in a cellar weave shrouds for the upper chambers. (8) Dirt, debauchery, disease, and death, are successive links in the same chain. (9) Calisthenics may be very genteel, and romping very ungenteel, but one is the shadow, the other the substance, of healthful exercise. (10) Girls need health as much—nay, more than boys. They can only obtain it as boys do, by running, tumbling—by all sorts of innocent vagrancy. At least once a day girls should have their halters taken off, the bars let down, and be turned loose like young colts."

The Anti-Science Crusade.—Under the specious plea of preventing cruelty to animals, a crusade is constantly being waged against science and common sense. The crusade against physiological inquiry is really one against the acquisition of knowledge by which life can be saved, and recent antiscientific agitators go so far as to urge that patients in hospitals should be "protected" against treatment by which their diseases can be cured. "Knowledge" is often said to be "power;" and the particular form of knowledge against the attaining of which these onslaughts continue to be made has indeed shown itself to be a power in the saving of life. When one serious disease comes on the top of another, then it is apt to go hard with the patient, and for years back it has been found that of all the complications of convalescence from scarlet fever, the occurrence of diphtheria has been the most terrible. Far more than half of the patients so attacked died until the introduction of antitoxin. Then the whole aspect of affairs was changed, for the death-rate fell, so soon as antitoxin was used in treating the disease, from an average of 63.0 per cent. during the preceding three years, to one which at the outside, even after deducting the mild cases, was not more than 7.5 per cent. This is sufficiently striking, but since the publication of the official report even better results have been obtained, long series of cases having occurred without any death at all. Now at what expense of cruelty have these results been obtained? A few healthy old horses which, if not used for this purpose, would either have already gone to the knackers' yard, or would still be enduring the hard fate which old horses must suffer when they have to earn their living by labor in the streets, are now well housed, well fed, and well groomed, on the one condition that they now and again put up with such a bleeding as, not so long ago, was voluntarily undergone by healthy men as part of the routine of spring and autumn. Yet because this thing goes by the name of vivisection, these writers howl, and would leave the ignorant to demand that these horses should be restored to the miseries of the streets, and that these children should again be handed over to the most cruel of all deaths.—*British Medical Journal.*

CIRCULAR LETTER.

THE DEATH OF GENERAL FESSENDEN.

To the Medical Officers of the U. S. Marine Hospital Service:

IT is with regret that I have to announce to the medical officers of the service, the death, on the 23d inst., from a complication of heart and kidney affections, of Surgeon

Charles Stewart Davies Fessenden. Surgeon Fessenden was the senior surgeon of the corps, having served since April 4, 1861—a period of more than thirty-five years. He was born in Portland, Me., February 23, 1828, and was of a family noted in the annals of his native State and the nation. His father, General Samuel Fessenden, was for many years a leader at the bar of Maine, and his eldest brother, William Pitt Fessenden, was the distinguished senator of that State, and during the administration of President Lincoln became Secretary of the Treasury. Two nephews of Surgeon Fessenden rose to the rank of brigadier-general during the Civil War, and others have been prominent in private life, two of them in the profession of medicine.

Surgeon Fessenden was fitted for college at the Portland Academy, and in 1844 entered Harvard University, where he pursued his studies for one year. Leaving Harvard, he became a student at Bowdoin College, from whence he was graduated in 1848.

He studied medicine under Charles W. Thomas, M.D., of Portland, Maine, and attending medical lectures at the Medical School of Maine, and also in New York, was graduated in 1851 from the Medical School of Maine. From 1853 to 1856 he was physician in charge of the Portland City Hospital, after which date he became a private practitioner until his appointment as surgeon in the Marine Hospital Service, in 1861.

During the period of his membership in the corps, he served as commanding officer at the ports of Portland, Me.; New York, N. Y., St. Louis, Mo.; Norfolk, Va.; Louisville, Ky., and Mobile, Ala. During this period he was also a member of three boards of medical officers convened for the examination of applicants for the Service, and of eight boards convened for the physical examination of candidates for admission to the Revenue Cutter Service, besides serving on various special details as inspector.

On account of the failure of his health in the fall of 1895, he was ordered to appear before a board of medical officers for physical examination, and, in accordance with the report of the board, was placed on waiting orders November 22, 1895.

During the few months which intervened between this date and his demise, Surgeon Fessenden resided at Salem, Mass., at which place his death occurred.

Respectfully yours,

WALTER WYMAN,

Supervising Surgeon-General M. H. S.

SPECIAL ARTICLE.

POINTS OF INTEREST TO MEDICAL MEN VISITING PARIS.

BY F. O. CHAMBERLAIN, M.D.,
OF PARIS.

ALTHOUGH there are among the traveling public annually visiting Paris a large number of American practitioners and students of medicine, very few see anything of medical work and progress in this great center. Unfamiliarity with the language is one of the chief deterrents, and limited time another; yet, in spite of these, the visitor could still derive much pleasure and considerable profit from an inspection of the clinical field, were he provided with the information requisite for his proper guidance. It is with the view of supplying, in some degree, this information that the writer, an American practitioner in Paris, takes pleasure in presenting, through the columns of the MEDICAL NEWS, certain points for the consideration of his colleagues coming abroad.

The twenty-five special and general municipal hospitals, which are open to the visitor, are divided about equally between the right and the left banks of the Seine, and are situated, with few exceptions, at a considerable distance from each other. For this reason, a central location, such as the vicinity of the Opéra, will be found to be most convenient for the visitor, unless he should wish to follow regularly the work of some special service. Should expense be a matter of consideration, accommodation may be found at a more moderate rate upon the left bank of the Seine. Upon that side of the river are situated the buildings of the Ecole de Médecine in the street of the same name. The faculty consists of thirty-four professors, with thirty-seven assistant professors, in active service. The students number nearly five thousand. There is no hospital connected immediately with the school, but the following permanent official clinics (Cliniques de la Faculté) are conducted by professors of the faculty:

With the exception of the obstetrical services (for which non-transferable cards are delivered gratuitously upon application at the office of the Secretary of the Faculty), the visiting medical man is admitted to all of the official clinics without formality of any kind. Much of the surgical work in the Paris hospital ampitheaters is performed under conditions similar to those obtaining elsewhere, but in the small rooms used for abdominal and most gynecological operations, the visitor is allowed the same freedom and facilities for viewing the work as those enjoyed by the house staff or the operators' assistants, a privilege less freely accorded the stranger in other countries.

For changes in the official program, the visitor should consult the posters (Tableaux des Cours et Cliniques de la Faculté) in the courtyard of the Ecole de Médecine. Copies may usually be obtained for a small gratuity, through the uniformed janitor in the hall (10 A.M. to 4 P.M.) leading to the Secretary's office, which, like that of the Dean, is in the school buildings. The Dean receives on Wednesday from 9 to 10.30 A.M., and the Secretary on Tuesday, Thursday, and Saturday, from 12 to 1 and from 2 to 3 P.M. The time at the disposal of these officers is so limited that the visitor desiring to apply for special information or favors had best do so by letter, or verbally through the First Assistant (Monsieur Lesieur) at the Secretary's office, window No. 1, Bureau de Reuseignements, 10 A.M. to 4 P.M.

During the School vacation, beginning in August and ending in October, the official clinics are discontinued. However, the visitor so inclined will find ample opportunity for observing work in the Paris hospitals at all seasons. Besides the Cliniques de la Faculté, there are

many services at which the visiting medical man is made welcome upon the presentation of his card. Of these services, the following are some of the most interesting, on account of the eminence of the men in charge, the organization of the work, or the novelty of the methods pursued:

Hôpital de la Salpêtrière.—Mental diseases, Dr. Déjerine, Thursday, 5 P.M.; Electrotherapy, Dr. Vigouroux, Tuesday, Thursday, Saturday, 12 to 3 P.M.

Hôpital Saint Antoine.—Nervous Diseases, Drs. Ballet and Brissaud; General Medicine, Dr. Hanot. An address at this hospital during the winter months by Dr. Ballet, Sunday, 10 A.M., Diseases of the Brain; and by Dr. Brissaud, Thursday, 10 A.M., Diseases of the Spinal Cord.

Hôpital des Enfants Malades.—Diphtheria, Dr. Sevestre, Serumtherapy on an extensive scale.

Hôpital Broca (Rue Broca).—Gynecology, Dr. Pozzi, operations in the morning, two or three times weekly.

Hôpital Beaujon (Rue du Faubourg St. Honore).—Surgery, Dr. Lucas-Championnière, Abdominal Operations in the morning, twice weekly.

Hôpital Saint Louis.—Cutaneous and Syphilitic Diseases, Drs. Besnier, Du Castel, and Hallopeau. The facilities at the St. Louis for the practical study of syphilis and diseases of the skin are unequaled. In addition to immense clinical material and a corps of specialists of international reputation, this hospital possesses a museum containing a remarkable and admirably arranged collection of wax casts, representing cutaneous lesions of great variety and in all stages. Surgery, Dr. Richelot; operations in the Pavillon d'Isolement several times weekly, in the morning chiefly gynecological, and illustrating certain points of technic original with the operator.

For full information respecting the above-mentioned services, the visitor should apply at the respective hospitals, ask the janitor to direct him to the service required, and there ascertain particulars from the interne on duty. Of the numerous private clinics, one of the most interesting is that of Dr. Apostoli, No. 19 Rue du Jour (Tuesday, Thursday, Saturday, 5 to 7 P.M.), where several thousand cases annually of uterine fibroids are treated by the Apostoli method of galvano-cauterization. Here also may be seen numerous patients under treatment by the new method of alternating currents of great intensity. At No. 3 Rue Christine may be seen (for hours of admission apply at clinic) Dr. Fort's so-called linear electrolytic method of dilating urethral strictures. The Institut Pasteur, No. 25 Rue Dutot, may be visited by permission of the Director on the premises. This institution is not connected with the medical school, and foreigners are admitted, under certain conditions, to work in its laboratories. Information concerning these conditions, however, would be of interest only to those desiring to pursue continuously special work, and would therefore be beyond the scope of the present description.

Hospital.	Clinic.	Days.	Hour.	Professor.
Charité. Rue Jacob.	Surgical. Medical.	Mon. Wed. Fri. Tues. Sat.	9.30 A. M. 10.00 "	Tillaux. Patain.
Pitié. Rue Lacépède.	Medical. Surgical.	Tues. Sat. Mon. Fri.	9.30 A. M. 9.30 "	Jaccaud. Berger.
Necker Rue de Sèvres.	Surgical. Abdominal Operations. Genito-urinary.	Tues. Fri. Thursday. Wed. Sat.	9.30 A. M. 9.00 " 9.00 "	Le Dentu. " Guyon.
Enfants Malades. Rue de Sévres.	Medical.	Tues. Sat.	4.00 P. M.	Grancher, (Marfan, substitute)
Laennec. Rue de Sévres.	Therapeutical.	Thursday.	10.00 A. M.	Landausy.
Hôtel Dieu. Place du Parvis de Notre Dame.	Surgical. Abdominal operations. Medical. Ophthalmological. Ophthalmological Operations.	Tues. Fri. Thursday. Mon. Fri. Mon. Fri. Mon. Fri.	9.30 A. M. 9.30 " 10.00 " 9.00 " 10.00 "	Duplay. " Charrin. Panas. "
Saint Antoine. Rue de Faubourg St. Antoine.	Medical.	Tues. Sat.	10.00 A. M.	Hayem.
Sainte Anne. Rue Cabanis.	Mental Diseases.	Wed. Sat.	9.30 A. M.	Jaffroy.
Saint Louis. Rue Bichat.	Cutaneous and Syphilitic. Diseases of Scalp. Dermatological Operations.	Wednesday. Thursday. Thursday.	11.00 A. M. 9.00 " 10.30 "	Fournier. " "
Salpêtrière. Boulevard de l'Hôpital.	Diseases of Nervous System.	Tues. Fri.	10.00 A. M.	Raymond.
Clinique d'Accouchements. Rue d'Assas.	Obstetrical visit.	Daily.	9.00 A. M.	Tarnier. (Bar, substitute).
Clinique Baudelocque. Boulevard de Port Royal.	Obstetrical visit.	Daily.	9.00 A. M.	Pinard.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Sixty-fourth Annual Meeting, held in Carlisle, England, July 28, 29, 30, 31, 1896.

FIRST DAY, JULY 28TH.

DR. HENRY BARNES delivered the President's address upon

THE MEDICAL HISTORY OF CARLISLE.

After referring to the power and influence of the British Medical Association, which he pronounced the largest and most powerful medical society which the world has ever known, he offered a hearty and cordial welcome to the

assembled members. The great purpose which had caused such a large body of men to come together under one name was to render our profession of the highest service, not only to the individual but the state, by taking our share and giving our advice in the framing of laws, in the regulation of charities, and by the elevation of all that constitute the education of a man of science, the physician, the surgeon, or the guardian of the public health. He then entertained his hearers with an elaborate account of the medical history of the City of Carlisle. It is one of the oldest cities in the British empire, and in referring to the early struggles of medicine within its limits, the author presented a bird's-eye view of the progress of medicine throughout the entire British islands. He dwelt at some length upon the value of the work of his predecessors, and of the debt that posterity owes to them. Carlisle had suffered from numerous visits of the plague, and had been sorely afflicted with epidemics of smallpox. The mortality from the latter disease at the end of the last century accounted for nearly one out of every seven deaths in Carlisle. Since that period it has been a well-vaccinated community, and now the disease is almost entirely unknown. The most distinguished physicians during the latter part of the last century were Dr. Wm. Brownrigg and Dr. Heysham. Dr. Heysham conceived the idea of collecting statistics of mortality, and by carefully recording the births, marriages, diseases, and deaths of the people, he accumulated the data upon which the "Carlisle Tables of Mortality" were based. The value of the Carlisle tables were speedily recognized, and one by one the leading life insurance companies, both in England and America, adopted them as the basis of their calculations.

SECOND DAY, JULY 29TH.

SIR DYCE DUCKWORTH delivered the address in medicine, upon

THE PROGNOSIS OF DISEASE.

In dwelling upon the importance of the subject of prognosis, he said that our minds have been probably too exclusively intent on acquiring knowledge of facts, and few among us have had time to apprehend the great general laws which underlie and govern them. The education of to-day is perhaps rather overladen with details, and somewhat barren of the inculcation of general principles. We must, if we are to be great in medicine, sometimes lift our eyes from the microscope and away from the engrossing researches of laboratories, and rising to a higher platform, survey the large fields which lie before and beyond us. We need both the talent of the ancient philosopher, who had an eye for general truth and the qualities of the modern observer, whose eyes are so intently set on particular facts. The problem now before the profession is to combine these in due harmony, and by the light of our most recent attainments, to cast our eyes forward and foresee the result of disease. No two cases being alike, we must have regard as to what disease means to the particular individual under consideration.

In cases of enteric fever, obese and elderly patients are bad subjects. The existence of chronic renal disease is incompatible with recovery from the continued fevers, and the presence of cardiac valvular disease adds greatly to the danger therefrom. Meteorism, delirium, and tremor are also of serious import, indicating failure of nervous power. Early hemorrhage is unimportant; late hemorrhage signifies exhaustion and deep ulceration of the bowel. Vomiting in the third week may be the precursor of peritonitis. Epistaxis is not serious unless profuse, when it may prove fatal. Abundant eruption of the papules does not denote any special gravity, and *per contra*, is no ground for belief that the case is a mild one. Excessive diarrhea is unfavorable. Perspirations, apart from other severe indications of weakness, are not important.

The malignant varieties of the exanthemata and of diphtheria admit only of the worst prognosis at any age and under all conditions. Prognosis is grave in the exanthemata, according to the early treatment, age of the patient, and the abundance of the eruption. High fever, delirium, hemorrhages, membranous angina, laryngitis, and parotid bubo are of evil augury in scarlatina, likewise suppression of urine from intense toxic glomerular nephritis. In the milder forms of scarlatino-polyarthritus, the prognosis is good. Purulent arthritis is almost uniformly fatal, unless confined ultimately to one joint. Capillary bronchitis and a collapse of large tracts of the lungs constitute the worst symptoms of measles in children. Recent experiences of influenza have taught us the special dangers of the peculiar pneumonia of that malady in the case of persons past middle life, and of the grave cardiac asthenia that may long persist.

Prognosis in diphtheria is certainly less serious now than was the case five and twenty years ago, and we note the exceptional danger to children under two years of age. Early tracheotomy, with aseptic treatment and intelligent nursing, has alone saved myriads of lives. Antitoxin treatment, in my experience, has proved of decided value in diminishing the death-rate. If a week elapse without laryngeal complications, we may fairly hope that the larynx may escape invasion by the membrane. After this, our anxiety relates to the welfare of the heart and of the nervous power of the patient. The spread of specific neuritis, with its varied symptoms, constitutes a danger sometimes little short of that induced by laryngitis. Nasal diphtheria should always excite concern. Delirium in diphtheria is also a bad sign. There is some risk of serious symptoms due to systematic intoxication in the adult, and more danger from laryngeal infection in the child.

According to Kanthack and Lloyd well-marked leucocytosis, gradually falling, together with decline of temperature indicates a good reaction and justifies a favorable prognosis. Low leucocytosis, or an absence of this, with fever, is a bad sign. High leucocytosis with subnormal temperature is always a bad augury. Other observers, however, are not in agreement on these points.

If variola attacks persons with Bright's Disease a fatal issue is certain. The eleventh or twelfth day is the most critical and laryngeal or pulmonary complications are the most fatal.

Erysipelas is likely to prove fatal if it starts in with severe constitutional disturbance and vomiting, especially

in the aged and in previously intemperate persons. In the newborn, if the naval is attacked, fatal issue is common.

In regard to tetanus, our experience of specific antitoxin treatment is as yet insufficient to enable us to form a decided opinion of its value, but it appears to be encouraging.

If organisms be present in the blood of a patient and capable of cultivation from it (pyemia and septicemia) the prognosis is bad.

Prognosis in relation to tuberculosis is a large question and the factors on which determination depends vary greatly with the individual and his environment. Undoubtedly, the prognosis of all disorders of a tuberculous nature admits of a more hopeful view at present than formerly. Rational treatment, followed upon exact pathology, explains why this is so. The tissue resistance of the individual counts for much. Hughes-Bennett taught, and I think correctly, that no disease was so often recovered from as tuberculosis. Peritoneal tuberculosis often ends favorably. Meningeal tuberculosis is the most deadly of all forms and is but rarely survived. The genito-urinary forms are all of grave import. General miliary tuberculosis is as fatal as any malignant disease of which we have knowledge. Without doubt a gouty habit of body tends to inhibit and retard tuberculous processes. Valvular heart disease with hypertrophy and cardiac dilatation induce pulmonary congestion and the power to be inhibitory. Pregnancy retards active invasion in the lungs, lactation aggravates it. Pulmonary emphysema, asthma and chronic bronchitis delay the course of tuberculosis.

In diabetes we have to deal with two main classes of patients, the lean and the fat. The former present the worst cases, the disorder being more or less acute. As is now well recognized, the younger the patient, the worse the prognosis. Every additional decade of years helps toward a less serious immediate outlook. Speaking, generally, after forty years of age the outlook becomes less serious. Chronic cases of diabetes in the elderely may get on fairly well in presence of fine constitutions for thirty years. I have never known recovery from coma in any instance.

In rheumatic fever, if the seventh or eighth day be passed and no cardiac complication has supervened, we may not expect any form of carditis or of pericarditis, but if a relapse occurs, we may meet with this as a manifestation of the fresh attack.

In typhlitis many cases recover under judicious medical treatment. Perityphlitic abscess, if opened carefully, about the ninth or tenth day, generally heals favorably. Earlier surgical interference is very apt to lead to a fatal issue by toxic peritonitis.

In few diseases is the question of prognosis so important as in lobar pneumonia. All practical physicians now agree that a sthenic single pneumonia in a previously healthy young man gets well. Single or double pneumonia in a drunkard is fatal. Herpes labialis is a sign of good augury in a great majority of patients, and mostly accompanies cases in which a sharp crisis occurs on the sixth day. Abundant rusty sputa, bright in color, in a lean, even if elderly, patient are a good sign. Sweating and moderate diarrhea at the time of crisis are also favorable indications. Modern research has shown that leucocytosis is commonly of favorable import in pneumonia, and both laboratory experiments and clinical inquiry attest the value of this indication. Absence of leucocytosis is commonly a bad sign in any case. In diseases of the heart, the outlook is generally better than it was half a century ago. Pericarditis of rheumatic nature is very rarely fatal *per se*. With the practice of aseptic surgery purulent carditis is no longer to be regarded as necessarily fatal. Tuberculous pericarditis may be rather protracted, but is beyond recovery. Pneumopericardium is commonly fatal within two days. The principles on which the prognosis is framed in valvular disease are now well understood. All depends on the constitution, powers, habits, and environment as regards the integrity and nutrition of the cardiac muscular fibers. Intelligent treatment, instigated by accurate physiological research, has much to do with securing long immunity from fatal issues in all the varied evolutions of this disease.

Pernicious anemia admits now of less grave prognosis than formerly, owing to treatment with arsenic and marrow. Relapses are common. Osler knows of no case in males that remained well for five years.

In chronic parenchymatous nephritis, I have long been convinced that there is great variation in the course and outcome; and while some patients rapidly pass into conditions beyond recovery, others hold on for months, so long as care is taken in all respects. We think less gravely of uremia than our preceptors were wont to do, and by modern treatment with drugs, and occasionally by the older treatment in venasection, we find this grave condition more amenable to treatment.

In neuritis, of the whole group of conditions—a somewhat large and varied one—our prognosis is guided by consideration of the etiology and personal factors of the case. Cases often last for months and years, but the results are often quite remarkable if treatment be persisted in. Endemic neuritis, or beriberi, if early treated, is not so serious a malady as is commonly supposed.

Dr. Dickinson says that "the tongue has a whole book of prognostics written upon its surface." Among the conditions of the tongue, which favor a satisfactory prognosis in any case of any disease, are to be noted recovery of moisture and a cleaning of fur from the tip and edges toward the dorsal.

The author closed with the words of Hippocrates: "It appears to me a most excellent thing for the physician to cultivate prognosis; and he will manage the case best who has foreseen what is to happen from the present state of matters."

THIRD DAY, JULY 30TH.

RODERICK MACLAREN, M.D., delivered the address in surgery. His subject was

PREVENTIVE SURGERY.

By preventive surgery must be understood operative work which is entered upon or undertaken for some risk or sequence which we expect to result from an existing

condition, and not what is actually present at the time. It was formerly alleged, by men of great capacity and intellect, that such operations were attended by a greater mortality than operations of necessity; nature was endowed by them with the power of accommodating itself to the inevitable but of resenting mere expediency. We should be able to say to a patient, If you allow what now exists to continue you will experience certain definite unfortunate consequences. Our technic ought to be perfect, for though mistakes and oversights may sometimes be excusable in operations of emergency, in preventive operations they should have no place.

A large amount of preventive surgery has a causal relation to the throat and naso-pharynx. Enlarged tonsils and adenoid growths check growth and nutrition. It is often very striking to see the growth and development which follow the removal of large tonsils or adenoids. Few operations give so good results with so little risk or trouble. It should be the rule to operate on every discharging ear that does not get well by treatment. The mastoid cavities should be laid open, all diseased bone removed, all unwholesome structures scraped away, and everything made suitable for speedy healing.

Herniæ offer a field for preventive surgery, but not every hernia should necessarily be subjected to operation. A properly adjusted truss will relieve all symptoms in the majority of cases and will cure many. But among the miseries which may make long life a burden to its possessor there are none greater than those resulting from an enlarged prostate. Supra-pubic cystotomy with removal of enlarged prostate is at present the operation to be first considered. The resulting mortality is small, not more than ten per cent., and it must be kept in mind that the condition is a very fatal one. The operation of removing the testicles for enlarged prostate is too new, and the cases too few, to allow of any decided opinion as to its merits.

An opinion strongly held, both here and in America, by men whose surgical work entitles their views to the highest possible respect, is that every appendix vermiformis which has given rise to morbid symptoms should be cut down upon and removed when in a quiescent state.

Another disease holds out the prospect of a wide field for the extension of the preventive principle, viz., carcinoma. In the future a preventive surgery founded on fuller knowledge will do for cancer what we are steadily doing for so many other diseases—compress it within narrowing limits.

Perhaps the besetting sin of surgery is that it has a narrowing tendency. In preventive surgery we have a tendency in an opposite direction. This tendency brings us into immediate contact with what the physician and general practitioner are doing, making our life and work a portion of the vast organization for the prolongation of existence, and still further associates us with the great mass of scientific and intellectual advancement which lies outside the limits of any profession, of any nation, and of any time.

(To be continued).

TENTH ANNUAL MEETING OF THE AMERICAN ORTHOPEDIC ASSOCIATION.

Held in Buffalo, May 19, 20, and 21, 1896.

ROYAL WHITMAN, M.D., of New York, President.

FIRST DAY, MAY 19TH.

L. A. WEIGEL, M.D., of Rochester, read a paper on

THE RATIONALE OF GYMNASTIC EXERCISE AND PRESSURE CORRECTION IN THE TREATMENT OF SCOLIOSIS.

He summarized his views as follows: (1) Gymnastic exercise as an exclusive method of treatment must be limited to the very early stages, and to deformities which are postural, pure and simple; (2) exercises of all kinds are insufficient, even in comparatively mild cases; (3) treatment by mobilizing the spine should precede any attempt to develop the muscles; (4) removal of the superincumbent weight is the important part of the treatment, and is of great value in sustaining the effects of exercise; (5) over-development is to be avoided; and (6) empiricism should have no part in the treatment of scoliosis.

JACOB TESCHNER, M.D., of New York, present by invitation, read a paper on

THE RAPID CURE OF ROTARY LATERAL CURVATURE OF THE SPINE, AND OTHER POSTURAL DEFORMITIES, BY MEANS OF THOROUGH DEVELOPMENT, AND CORRECTIVE EXERCISES WITH HEAVY WEIGHTS.

He gave a demonstration of the method of carrying out these exercises. According to his view of lateral curvature, it was due to general muscular weakness, and habitual faulty position, and hence the whole muscular system should be developed. At each visit the patient is put to his individual limit, and it is found that this usually increases at each visit. He claimed that by this method he had succeeded in curing cases of lateral curvature in which there were bony and ligamentous changes, and marked rotation present. In the milder cases improvement was quite noticeable within two weeks, and a cure would often be effected in three months. He said that out of twenty-one cases treated by him according to this method, nineteen had been cured, and two had been very much improved at the time the treatment had been discontinued. The advantages claimed for the treatment were: (1) The improvement in the general health and in the muscular development; (2) a marked increase in the lung capacity; (3) a slower and more forcible heart action; and (4) that long after the cessation of the treatment, an improvement was noted in the muscular system and in the general health.

DR. S. KETCH of New York, said he agreed with Dr. Weigel, except that he would attribute some benefit to will-power. Regarding Dr. Teschner's paper, he would say that he was not yet convinced that it was necessary, or even advisable, to subject children and adolescents to such a severe course of gymnastics—indeed, he believed that the cases cured by this method could be treated with equal success by other and safer means. It was not difficult to secure an improvement in cases of lateral curvature by correcting the postural curves, but the only test of marked benefit, or of cure, was the amelioration of the

element of rotation. In his opinion, it was important to increase, and to maintain the lateral flexibility of the spine, and hence he would look upon the best method of treating lateral curvature of the spine as that one which combined the use of mild gymnastic exercise and the application of retentive apparatus.

Dr. John Ridlon of Chicago, said that he had tried these heavy exercises on only one patient, a girl of sixteen. This girl became greatly fatigued after making ten or fifteen movements with dumb-bells weighing one and a half pounds, and it was impossible to get her to put a five-pound bell more than five times. As there was no visible improvement in the case after four or five weeks of this exercise, he had abandoned further trial of the method.

The speaker then proceeded to criticise the incomplete and inaccurate photographic records presented by Dr. Teschner, objecting particularly to the absence of photographs of *cured* cases, and also of the best position the patient could be made to assume prior to the treatment. Without these, he said, it was impossible to judge of the merits of the method.

Dr. Reginald H. Sayre of New York, said that he could not accept the statement that development of one part of the muscular system must necessarily be at the expense of the remaining portion. In his opinion, there were many cases of lateral curvature which could not be well treated without mechanical appliances. If it were true that bone changes could be made to disappear by muscular exercise alone, it was certainly a novel and wonderful scientific fact. Until indisputable evidence to this fact was forthcoming, he must be in doubt regarding the kind of cure meant. Nor could he accept the statement that the improvement in muscular development continued after cessation of the exercises, for this was at variance with general principles.

Dr. A. J. Steele of St. Louis, said that he thought there was enough in Dr. Teschner's method to justify him in continuing his work along this line. He could not agree with Dr. Weigel that the spine could not be rendered flexible by means of jackets and similar apparatus.

Dr. Harry M. Sherman of San Francisco, said that while he agreed with those who considered the superincumbent weight the chief etiological factor, he could not but wonder why any bone in the body should be abnormally weak, unless possibly as a result of rickets in early life. He endorsed the use of mirrors as an aid to the proper performance of gymnastic exercises.

Dr. A. E. Hoadley of Chicago, said he considered the prime etiological factor to be "cellular tension," or debility. Such a condition, when present in the intervertebral cartileges, may result in marked shortening of the stature. He had known this to amount to as much as $1\frac{1}{2}$ inches between the time of rising and going to bed at night. When such shortening exceeded half an inch, deformity was invited.

Dr. W. E. Wirt of Cleveland, said that he agreed with Dr. Teschner regarding the increased flexibility of the spine produced by these heavy exercises, but he thought it was a mistake to pin one's faith on one method of treatment exclusively.

Dr. Hanna of Oberlin College, said that in the treatment of cases of lateral curvature she preferred massage to forcible manipulation, together with the use of the hot and cold douche.

Dr. Weigel said that he did not believe that the disadvantages of mechanical supports were as great as had been claimed. He could not believe, as Dr. Teschner had stated, that the muscular strength was increased from visit to visit by the heavy gymnastics.

Dr. Teschner, in closing the discussion, said he admitted the inaccuracies of his records, as of all known methods of recording such cases, but they were the best obtainable under the circumstances. He had made no attempt to pose his patients for their photographs.

Wm. J. Taylor, M.D., of Philadelphia, reported a case of

SPONTANEOUS DISLOCATION OF THE HIP.

which had evidently occurred about six months after a fall. The history clearly indicated that it was not a case in which the dislocation had been produced by the injury, and had been merely overlooked. As the dislocation had existed for fifteen years before coming under his observation, no attempt had been made to dislodge the head of the femur from its position on the dorsum of the ilium.

Several other members reported similar cases.

Joel E. Goldthwait, M.D., of Boston, read a paper upon

THE ANTERIOR TRANSVERSE ARCH OF THE FOOT,

in which he discussed the subject fully. He said that the cases of abnormality of the anterior transverse arch of the foot might be divided into two groups, viz., first, the relaxed form; and second, the rigid type with distinct bony change. The patient stated that the foot was becoming wider, and examination showed a callosity under the head of the second, third, or fourth metatarsal bone. The speaker thought that improper shoeing was largely responsible for the condition. In the treatment of the relaxed cases, it was most important to strengthen the front part of the foot by appropriate balancing exercises, and to relieve the strain on the ligaments and muscles by the application of a snugly fitting bandage, just behind the head of the first metatarsal bone. Immediate relief would follow the application of a pad of felt, so as to make pressure just back of the heads of the second and third metatarsal bones.

Dr. Ketch referred to a case in which the gouty diathesis, rather than bad shoeing, had caused the condition.

Dr. E. H. Bradford said that by means of the roller bandage and felt pads, he had relieved many cases. He had seen no case of true metatarsalgia in which the second metatarsal bone was depressed; they had all been in cases where the trouble was in the fourth metatarsal bone.

Dr. J. E. Moore of Minneapolis, said that he had met with this condition most commonly among nurses. His treatment had been successfully carried out along the lines recommended in the paper.

Dr. Kerr of Washington, D. C., said he had also found metatarsalgia associated with depression of the fourth metatarsal bone, and had relieved the pain and

disability by excision of the metatarsal joint, and sometimes also of the nerve.

THE PRESIDENT called attention to the fact that a proper shoe should be made so that the toes do not point upward, as they did in the ordinary shoe.

DR. GOLDTHWAIT, in closing, said that undoubtedly the chief cause was bad shoeing. In some cases there had been pain at the head of the fourth metatarsal bone, and in others between the second and third metatarsals.

The President's address was on

THE DEFINITION AND SCOPE OF ORTHOPEDIC SURGERY.

DR. WHITMAN suggested the following definition: "Orthopedic surgery is that division of surgery which treats of disabilities and diseases of the locomotive apparatus, and of the prevention and treatment of the deformities of the framework of the body."

INVESTIGATIONS ON FLATFOOT.

E. H. BRADFORD, M.D., of Boston, by means of lantern slides, showed the development and causation of flatfoot. These photographs compared the weak feet of shoe-wearing people with the strong feet of those who were accustomed to go about without shoes.

DR. WHITMAN commented upon the evident advance that had been made in the last decade in the knowledge and therapeutics of this subject.

SECOND DAY, MAY 20TH.

E. H. BRADFORD, M.D., of Boston, presented a paper on

THE TREATMENT OF ABSCESS IN HIGH DORSAL CARIES.

He advocated operation and drainage of the abscess. This operation should be begun by cutting down upon the tip of the transverse process, and resecting a portion of rib, after the manner of an operation for empyema. There was less danger to the heart and large blood-vessels if the incision were made on the right side.

DR. R. H. SAYRE said that Dr. Schafer of Chicago, in some cases of this kind, had passed in a probe and cut down upon it, and had then established through drainage from one side to the other.

DR. SHERMAN said that he had performed the operation in a case in which the abscess had perforated an intercostal space, and produced an accumulation under the skin. The diagnosis was comparatively easy if the way were made plain by the burrowing of the abscess between the ribs.

DR. KETCH referred to a case of very sudden death in a child suffering from disease of the second and third cervical vertebra. Although no autopsy could be obtained, it seemed fairly certain that death had been due to the direct pressure upon the respiratory center.

DR. GOLDTHWAIT said that he had seen the suddenly fatal case which had formed the text for Dr. Bradford's remarks. The cause of the sudden death remained unexplained, for the autopsy showed that the abscess had not ruptured, and there was no evidence of pressure on the spinal cord.

DR. BRADFORD, in closing the discussion, said that where there was disease of the axis and atlas, there was danger of direct pressure upon the respiratory center, but where the disease was lower down, and was associated with suffocative symptoms, it was fair to conclude that an abscess was present. The operation which he had advocated, was certainly a grave one, but it was intended to meet a grave emergency.

SAMUEL KETCH, M.D., read a paper on

SUPPURATION IN JOINT AND SPINAL DISEASE, AND ITS RELATION TO TUBERCULAR MENINGITIS—AN ANALYTICAL STUDY.

DR. J. E. MOORE said he thought it might be safely concluded that the formation of tubercular abscesses did not play a very important part in the development of tubercular meningitis. The evidence in the paper would also seem to point to the fact that operative measures were much less likely to cause tubercular meningitis or general tuberculosis than had been supposed.

DR. A. M. PHELPS said he did not think it was possible for true suppuration to produce a tubercular lesion.

DR. GOLDTHWAIT said that his cases of tubercular meningitis had given only the clinical evidence of this disease, but in every instance the autopsy had disclosed an acute general miliary tuberculosis.

HARRY M. SHERMAN, M.D., of San Francisco, read a paper on

A CLINICAL STUDY OF IODOFORM-GLYCERIN IN TUBERCULOUS OSTEOMYELITIS.

Fifteen of the twenty cases observed were cases of hip disease, two of knee-joint, two of ankle-joint disease, and one of disease of the elbow. In all, 164 injections were made. About half of those were intra-articular, and the other half were intraosseus injections of a ten per cent. solution of iodoform in glycerin. In no case was there any iodoform poisoning, or was the injection the cause of suppuration. The action of the injections was, in most instances, disappointing. In no case was the orthopedic treatment interrupted.

DR. ROSWELL PARK of Buffalo said that he had made an extensive trial of the intra-articular injections of iodoform, but had not seen much benefit from their use. In two cases, coming to excision, the iodoform was found packed into a mass, which acted as a foreign body. He had made some culture experiments with iodoform, and these had demonstrated that the germicidal power of iodoform was very feeble.

DR. J. E. MOORE said that he, too, had met with nothing but disappointment from the iodoform injections, except in the treatment of psoas abscesses. Here, he thought, they had been of some benefit.

DR. HENRY LING TAYLOR of New York said that although iodoform had proved disappointing when injected into diseased joints, he thought a solution of iodoform in ether was a valuable injection for sinuses.

DR. PARK said that as the germicidal action of iodoform was claimed to be due to the liberation of free iodin, he proposed to study the effects of injections of iodin and glycerin.

DR. JOHN RIDLON said that a sharp distinction should be made between cases treated by protective apparatus in conjunction with iodoform injections, and those in which only the injections were used. He had treated about thirty cases by the intra-articular injections. About one-third had showed improvement; another third had remained stationary, and the others appeared to have been made worse by the treatment.

DR. A. M. PHELPS of New York said that he had used the injections of iodoform with negative results. Iodoform and glycerin were useful in tubercular abscesses, partly because of the hygroscopic nature of the glycerin.

JEROME HILTON WATERMAN, M.D., of Buffalo, reported

FURTHER OBSERVATIONS ON THE USE OF HYDROCHLORIC ACID IN BONE NECROSIS OF TUBERCULAR ORIGIN, WITH REPORT OF CASES.

The injections of strong hydrochloric acid were usually made twice a week. His experience was, on the whole, favorable to the method.

DR. W. R. TOWNSEND said that he had observed good results from this treatment, particularly where the necrosis was superficial.

DR. A. E. HOADLEY of Chicago said that the application of a five per cent. solution of hydrochloric acid was sufficient to quickly decalcify the bone, without destroying other tissues.

DR. SHERMAN said that as the chief seat of disease was the granulation tissue in the bone, it would seem to him that the use of the sharp spoon would be more effective.

DR. WATERMAN, in closing, said that the treatment was at times quite slow. He would advise the use of a local anesthetic in conjunction with the acid applications.

WM. E. WIRT, M.D., of Cleveland, read a paper upon

THE USE OF DRY HEAT OF HIGH TEMPERATURE IN THE TREATMENT OF CHRONIC JOINT AFFECTIONS,

and described the apparatus which he employed. It consists of a copper drum, twelve inches long and nine inches in diameter, fitted at each end with a wooden ring and a hood of thick rubber. Having protected the back of the knee with cotton, it is enclosed in the apparatus and heat applied to the outside by means of a Bunsen burner. Most patients would tolerate a temperature between 250 and 300° F., provided three holes were made in the drum to secure proper ventilation, and so keep the air dry. This treatment gives an immediate relief to pain and increases temporarily the mobility of the joint.

BERNARD BARTOW, M.D., of Buffalo, described

DIVISION OF THE HAMSTRING TENDONS BY THE OPEN METHOD FOR CORRECTING MALPOSITION AND SECURING REST IN TUBERCULAR DISEASE OF THE KNEE.

He contended that division of the hamstrings gave quicker relief and secured better rest than did mechanical appliances, and that it cut short the inflammatory process. The operation should be done by open incision.

DR. WIRT thought it was rare that mechanical means would fail to straighten these cases.

DR. R. H. SAYRE said that the operation might be occasionally demanded, but, whenever possible, the straightening should be accomplished by mechanical treatment alone.

DR. B. E. MCKENZIE of Toronto said that he considered the method unjustifiable until after mechanical treatment had failed, and in his experience, mechanical means had never failed under such circumstances. The patients just exhibited should not be allowed to go around without better protection of the joint.

DR. JOHN RIDLON of Chicago was very positive that any joint still diseased could be straightened without operation. He was accustomed to use some form of a Thomas brace. In cases in which the greater part of the rigidity appeared to be due to fibrous adhesions and muscular shortening, without evidence of acute inflammation, he would straighten the limb by manual force, applied under anesthesia.

DR. W. E. WIRT, as an example of what could be accomplished by mechanical means alone, referred to a recent case, which had been pronounced by several surgeons to be one of bony ankylosis, yet he had succeeded, by mechanical measures alone, in straightening the limb in two months.

DR. BARTOW, in closing, said that to insure safety and thoroughness, the operation of dividing the hamstrings should be done through an open incision. In the cases that he had treated by the method described in the paper, he knew of no other alternative than excision; hence he considered the division of the hamstrings perfectly justifiable. The method was only intended as one means of accomplishing an end.

ROYAL WHITMAN, M.D., of New York, read a paper upon

A THEORY OF THE ULTIMATE ETIOLOGY OF DEFORMITY AND ITS PRACTICAL APPLICATION.

He said that in the process of evolution, the erect posture had been comparatively acquired, and that it was an attitude difficult of acquirement and difficult to maintain. The ordinary so-called postural deformities were then explained. The flexion and contraction deformity, he said, was of special interest to the orthopedic surgeon. If one accepted the morphological theory of its etiology, it would be evident that as the erect posture was a newly acquired attitude, so also the uses by the limbs proper to that posture were newly acquired. Complete extension of the limb in the support of this posture required not only the greatest expenditure of nervous energy, but also the greatest strain upon the joint surfaces; and when the ability to assume this attitude became impaired, the affected member became flexed—in other words, it involuntarily assumed an attitude common to the lower or quadripedal form of locomotion. Flexion was an evidence of unbalanced nervous influence and of preponderance of power of the lower or reflex centers. In joint disease the cause was local irritation and consequent muscular spasm; in the second, the inhibitory influence of the higher center was impaired or removed. The erect posture was an evidence of the higher position of man in the scale of evolution. When the controlling force of the higher center was directly or indirectly

impaired, the more difficult and newly acquired attitudes were disused, and the affected part fell backward toward the type from which it had been differentiated.

HARRY M. SHERMAN, M.D., of San Francisco, read a paper entitled

FURTHER OBSERVATIONS ON THE CAUSE OF THE LIMP OF HIP-JOINT DISEASE.

He said that tuberculous bone disease resulted in a wasting of the osseous trabeculæ and the development of an area of structural weakness, usually in the neck of the femur. In hip disease the effort is made to bring the center of gravity of the body as nearly as possible over the head of the femur, so as to relieve the strain upon the structurally weak spot. This theory assumes that there is a "bone sense," comparable to the muscle sense. The speaker then went on to describe by the aid of blackboard diagrams his mechanical theory of the causation of the limp of hip-joint disease. He endeavored to show that the keynote to the subject, from a mechanical point of view, was the fact that the head and neck of the femur constitute a column and bracket, or what is known in mechanics as a "cantilever," and that these anatomical members were, therefore, governed by the same mechanical laws as control the operation of the "cantilever."

DR. WIRT said that he believed the author was in the main correct in his theory, but he would remind him that when running, the femur supports the weight of the body, plus the momentum.

DR. A. M. PHELPS said that he was of the opinion that the capsule of the joint was swollen with tuberculous material, and that as a result, in order to relieve intra-articular tension the patient pulled the limb into a partially flexed position.

DR. BRADFORD said that in some cases the lack of free motion in the joint would account for part of the limp. In cases of cured hip disease, with the limb much adducted, the limp was often due to the effort of the patient to balance himself.

THE PRESIDENT said that the weak point in the author's argument was the assumption of voluntary adaptation of the limb. If this were voluntary, one would certainly not expect it to occur in very early infancy, and yet it was known that the limb assumed such a position in these patients.

DR. WEIGEL said that he would like an explanation of the fact that in the early stage there would be a limp, even though there had been no swelling of the joint. Again, Dr. Judson had shown that patients who had recovered from hip disease, and who still limped, could be trained until the limp was scarcely noticeable.

DR. SHERMAN said that in running the footprints were very nearly in a straight line, thus bringing the point of support nearer to the center. This was not a voluntary, but a reflex act. He believed it was rare for hip joint disease to begin in the capsule. The recovered cases which walk without limp are those in which there is ankylosis between the bones.

A. R. SHANDS, M.D., of Washington, D. C., read a paper on

FEMORAL OSTEOTOMY FOR CORRECTION OF HIP DEFORMITY IN ADULTS, WITH A REPORT OF CASES.

He advocated Gaunt's intra-trochanteric osteotomy. He preferred to do this operation with Gaunt's osteotome having a blade only three-fourths of an inch wide. The only dressing was sterilized gauze retained by adhesive plaster, and a plaster-of-Paris spica applied after a proper position of the limb had been secured.

DR. PHELPS said that he would advise, in a case of double hip-joint disease with ankylosis, the performance of excision, being careful to remove enough bone to prevent ankylosis. He had recently adopted a novel method of securing motion at the joint, viz: cutting through just above the lesser trochanter; bringing down the limb by force; cutting off about three-fourths of an inch of the femur, and then inserting a piece of fascia between the ends of the bones.

DR. SHERMAN said that he would limit this subtrochanteric osteotomy to cases in which there was no motion between the femur and pelvis.

DR. W. R. TOWNSEND referred to several adult cases, coming under his observation, where an excellent result had been obtained by operation for bony ankylosis.

DR. GOLDTHWAIT also cited several adult cases, and remarked that the limb had been put up with ten or fifteen degrees of flexion so as to make it more comfortable for the patient when sitting down.

DR. J. E. MOORE said that while the result was not so likely to be good in cases where there was some motion, he would not confine operation entirely to those cases in which there was complete bony ankylosis.

ARTHUR J. GILLETTE, M.D., of St. Paul, read

A REPORT OF CASES OF OSTEO-SARCOMA OF THE HIP.

He reported three cases illustrating the difficulties in differential diagnosis where there was osteo-sarcoma of the hip. Deformity might not occur for months after the onset of the disease, and there would be in all probability no fixation, very little atrophy, and little or no shortening.

DRS. R. H. SAYRE, SHERMAN, and MOORE, also reported similar cases.

JAMES E. MOORE, M.D., of Minneapolis, read a paper on

TUBERCULOSIS OF THE WRIST AND CARPUS.

He said that wrist-joint disease comprised about five per cent. of all tubercular joint diseases, and occurred most commonly in persons between fifty and sixty years of age. The disease was insiduous in its development, but the diagnosis could be easily made by the swelling, atrophy, flexion, and the peculiar position of the thumbs and fingers. The tendon sheaths were often involved. Children often recover from the joint affection, but rarely live to maturity; in adults it almost invariably ends in phthisis. For children, enforced rest of the joint, by means of plaster-of-Paris dressings, is of service, but for adults it is only applicable to recent cases, and should then be combined with injections of iodoform emulsion. Where there were sinuses and evidence of suppuration, the choice lay between complete excision and amputation. Amputation

was often the most conservative treatment. The author did not favor early excision, because the functional results were bad, and as a life-saving measure it could not compare favorably with amputation. When the disease was well marked and progressing rapidly, when there was well-marked wrist-joint disease with incipient phthisis, and when with the wrist-joint disease there was advanced pulmonary tuberculosis, he would recommend amputation.

DR. MCKENZIE said that he had had some very good results in this class of cases from the use of injections of iodoform and glycerin. He had not observed severe reaction following this treatment—indeed, in some instances, the existing pyrexia had been observed to diminish after the injections.

DR. SHERMAN commended amputation as the best treatment in cases of severe disease of the wrist.

DR. GILLETTE said that some of those who had spoken had implied that these patients suffered much pain. His own impression had always been that wrist-joint disease was associated with very little pain.

DR. MOORE, in closing, said that occasionally pain was prominent. In one case he had done an amputation because of the intense pain, and the result, both as regards prolongation of life and increased comfort, had justified the amputation.

HENRY LING TAYLOR, M.D., of New York, read a paper on

THE MECHANICAL TREATMENT OF INGROWN TOE-NAIL.

He recommended the following method, modified from that devised by Mr. Masters of England. A flat strip of silver, one-hundreth of an inch thick, and one-eighth of an inch wide, and one inch long, is bent into the shape of a fish-hook. The toe having been cleansed with peroxid of hydrogen, and moistened with a solution of cocain, the hook is inserted under the lateral edge of the nail so that the shank of the hook curves over the side of the toe, and lies close to it. The greater the ulceration, the less the pain in inserting the hook. It is retained in place by adhesive plaster or a bandage. The hook not only protects the flesh from the nail, but it exerts a lifting action on the nail. After a few hours the patient suffers no inconvenience from the hook, and in a few days the swelling subsides, and the granulations become more healthy. It is well to wear the hook for several weeks after the tissues have healed, in order that they may become sufficiently hardened. The method, the speaker said, was applicable to the severest cases.

THIRD DAY, MAY 21ST.

J. C. SCHAPPS, M.D., of Brooklyn, described a

MECHANICAL SUPPORT FOR FLATFOOT.

On hammering out by hand a steel sole to conform to the arch of a well-developed adult foot, it would be observed that the anterior and posterior halves were nearly alike. Having modified the sole-plate so as to make these the same, it was found that the shape resembled that of a portion of the convex surface of a cone, with the apex directed toward the outer side of the sole and the base toward the inner side of the foot. From this plate, plaster casts were made, and these casts served as models from which iron dies were manufactured. With such dies any mechanic could make steel plates, from which soles were easily cut for right or left feet, high or low, large or small feet. A contour of the patient's foot taken on cardboard, was trimmed to fit the sole of the shoe in front, outer side and back, and made wide enough to allow of it coming well up on the inner side of the foot at the arch. This pattern was used to correct the rough outline of the foot taken on the plate itself. The curved line representing the inner edge of the arch of the plate should be located just below the scaphoid and the head of the astragalus. The inner flange of the plate requires careful shaping—it should be nearly vertical as the patient stands on the plate. Having fitted the plate to the foot and to the shoe, it should be covered with vulcanized rubber.

DR. SCHAPPS also described

SOME APPARATUS FOR THE TREATMENT OF POTT'S DISEASE.

He presented a wheel-cot which he had found useful for the purpose of maintaining uninterrupted recumbency with regulated pressure in Pott's disease. Traction could also be applied. He said that the energy required to hold the spine rigid and the lower limbs in a continuous state of elastic tension to break the shock to the spinal column, exhausted the general and local recuperative forces. It was injurious, in his opinion, to interfere with the respiratory movements of the chest and abdomen. The sternum should be used as a base from which to make forward pressure on a dorsal kyphos. It was also apparent that both the posterior or spinal, and the anterior, or sternal supports of the upper mass should be kept under it, and lateral pressure on the chest avoided. For the treatment of Pott's disease in the upright position, the author used a combination of the Taylor brace posteriorly, and anteriorly a rigid, light support, which made pressure only on the parts which could convey it to the spine without interfering at the same time with respiration.

LE ROY W. HUBBARD, M.D., of New York, discussed

THE TREATMENT OF POTT'S PARAPLEGIA.

He reported two cases, and asked if it were possible to reduce the period of paralysis. After reviewing the history of the treatment of this very common complication, and reading replies received from a circular letter that he had sent to the members of the Association, he concluded that if immediate efficient mechanical support were applied to the spine, absolute recumbency enforced until power returned, and a general tonic plan of treatment were carried out, there would be a complete cure in almost every instance, and in the majority, in a short time. Operative treatment was very rarely called for.

DR. KETCH said that his experience did not show a natural tendency toward recovery in cases in which the paraplegia affected the arms.

DR. WEIGEL said that it had been his lot to deal more especially with adult cases, in whom the prognosis was relatively less favorable. He did not think any one could

give even an approximate idea regarding the average duration of Pott's paraplegia.

DR. RIDLON said that his experience had been that the cases in which the sphincters were involved gave the worst prognosis. In one case in which the arms had been affected, recovery had been quite rapid.

A. M. PHELPS, M.D., of New York, described

THE TREATMENT OF CLUBFOOT.

Manipulation and retentive dressings should be begun at the earliest possible moment, and when, after a reasonable time, the progress by this method became very slight, all parts offering resistance to reduction of the deformity should be cut, and the limb put up in a super-corrected position. Out of 343 operations, he had had only five per cent. of relapses, and in the last series—182 cases—there had been no mortality.

REVIEWS.

ELECTRICITY IN ELECTRO-THERAPEUTICS. By EDWIN J. HOUSTON, Ph.D., and A. E. KENNELLY, Sc.D. New York: The W. J. Johnston Co., publishers; 1896.

THIS little book of four hundred pages is one of a series of similar works upon the subject of electricity. The other books of the series are written for the general public, but this one is directed more especially to the medical profession. The work is elementary in its nature, but the subject is made clear, and the book is well illustrated.

DIET FOR INFANTS AND CHILDREN IN HEALTH AND IN DISEASE. By LOUIS STARR, M.D. Philadelphia: W. B. Saunders, publishers.

THIS is a bound volume of prescription blanks for diet. The object of the book is not only to induce more definite principles of diet in the management of sick and healthy children, but also to make it convenient for the physician to practically apply these ideas. The blanks themselves are full of suggestion, and they are bound in form convenient for the physican. The leaves are perforated so that they are easily torn out as prescription blanks to be left with the nurse.

A B C CHEMIST'S VEST-POCKET DIARY FOR 1896. London: Burroughs, Wellcome & Co., publishers.

THIS little book is an embodiment of what its name implies. It contains a variety of pharmaceutical technical information, valuable not only to the pharmacist, but also to the physician.

THE NURSING WORLD BEDSIDE RECORD. For the use of physicians and trained nurses. New York: John Carle & Sons, publishers.

THIS Bedside Record is the outgrowth of a prize competition among readers of the *Nursing World*. It embodies the essential elements of a large number of designs. It is arranged in an attractive manner and printed in colored type, so that the main features of the record will readily catch the eye.

THE NEWER REMEDIES. By VIRGIL COBLENTZ, A.M. Second edition. New York: D. O. Haynes & Co., publishers.

THIS is a convenient inexpensive reference manual for physicians, pharmacists, and students. The constantly increasing number and complexities of new remedies with the scattered condition of the literature upon the subject, render it desirable that the physician should have the facts regarding them in a convenient form. This little book will furnish the latest and most reliable facts regarding these remedies.

HOW TO FEED CHILDREN. A manual for mothers, nurses, and physician. By LOUISE E. HOGAN. 1896. Small octavo, pp. 236. Philadelphia: J. B. Lippincott Co., publishers.

THIS book offers in a practical form, suggestions regarding the application of the principles of dietetics to feeding in the nursery and throughout the period of childhood. The book is practical and attractive, and if free from the error of inculcating over-confidence in the parent or nurse regarding the management of the individual case. The book is full of valuable hints and suggestions that may be of service to any practitioner in the presence of ill-nourished and improperly fed children when presented to him for advice.

FORMULAIRE DES MEDICATIONS NOUVELLES. Par Le DR. H. GILLET. Paris: Bailliere et Fils, publishers.

THERE are to be found in this new Formulary all the recent acquisitions of any value to modern therapeusis. The author has endeavored to discriminate, however, between those that have been established after thorough trial and those which are still in the experimental stage. To those familiar with the French language, the book will be found full of valuable suggestions.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 14, 1896, TO JULY 20, 1896.

The leave of absence on account of disability granted to Major Clarence Ewen, surgeon, is extended one month on account of disability.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 21, 1896, TO JULY 27, 1896.

Captain George E. Bushnell, assistant surgeon, is relieved from duty at Fort Hamilton, N. Y., to take effect upon the expiration of his present leave of absence, and ordered to Fort Assinniboine, Mont., for duty at that station, relieving Captain Peter R. Eagan, assistant surgeon. Captain Eagan, upon being thus relieved, is ordered to Fort Hamilton, N. Y.

Leave of absence for three months, on surgeon's certificate of disability, is granted First Lieutenant Isaac P. Ware, assistant surgeon, Madison Barracks, N. Y.

Leave of absence for one month is hereby granted Captain Paul Clendenin, assistant surgeon, Fort Warren, Mass.

The extension of leave of absence granted Captain George E. Bushnell, assistant surgeon, is further extended one month.

Leave of absence for three months, to take effect on or about August 3, 1896, is granted Captain Edgar A. Mearns, assistant surgeon, Fort Myer, Va.